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Washington Highlights

Units of civilian volunteers are being established by the Navy to learn how, if called upon, to man defenses of 28 major coastal cities against sneak atomic attack by submarines or surface ships. The harbor defense units of volunteer naval reservists have been authorized in coastal cities from Port Hueneme, California, to Portland, Maine.

California is evidently up in arms about the Federal gasoline tax of 1½ cents a gallon. The California State Chamber of Commerce was reported in Washington to have demanded repeal of the tax. Chairman Neil Petree of the Chamber's highway committee is quoted as saying: "Last year Californians paid $108,548,283 in Federal automotive excise taxes. Of this amount $41,146,560 was paid in gas taxes. Enacted as an emergency wartime levy, the gasoline tax is foremost of these wartime measures that should be repealed. It was never intended to be a permanent part of our Federal tax structure. Furthermore, automotive excise taxes are not imposed for road improvement. The funds collected in this field by the Federal Government go into the Federal Treasury for general fund use."

The House Ways and Means Committee is continuing its meeting in executive session and the question of the percentage depletion is yet to come up for consideration formally.

Recommending that the Interior Department's Oil and Gas Division "be either abolished or reduced," the House Appropriations Committee said there is no longer any need for active cooperation between the oil industry and the Federal Government.

Walter S. Hallanan, chairman of the National Petroleum Council has called the next meeting of the Council for April 26.

Information received here from London disclosed that the Moscow radio has announced that Russia and Communist China have set up joint companies to exploit the oil and metal ore resources of the Chinese province of Sinkiang.

In the event Texas should win its suit for its tidelands, which the state recently defended before the Supreme Court, many attorneys incline to the belief that the case against California might be nullified. If not entirely annulled, legal authorities foresee a favorable decision for Texas as fostering legislation now pending before Congress calling for return of the tidelands to the states. The high court now has under advisement the problem of whether oil and mineral wealth in the tidal water bordering Texas and Louisiana belong to the states or the Federal Government. The seven Justices will decide to approve the Federal claim to the tidelands, dismiss the Federal claim, which in effect would affirm state ownership, or order further consideration through the taking of testimony and evidence either by a Federal court or a special master as has been requested by the states.

The Senate has approved the Kerr Natural Gas bill by a vote of 44 to 38. A bill drawn along similar lines has already passed by the House and after the differences between the two bills are smoothed out in conference committee, the measure will proceed to President Truman. This bill seeks to clarify the Natural Gas Act of 1938 as concerns the jurisdiction of the Federal Power Commission over the production and gathering of natural gas which is transported in interstate commerce. It was drawn to remove from the FPC such authority as it has proposed to exercise in accordance with recent court decisions by extending its jurisdiction over natural gas all the way to the well head.

President Truman has named Secretary of the Air Force Symington as chairman of the National Security Resources Board.

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Platform Catalytic Process Improves Straight-Run and Natural Gasolines

This article is the first public disclosure of the Universal Oil Products Company's Platforming Process for the reforming of gasolines in the presence of hydrogen, using a platinum catalyst. The name "Platforming" is derived from contractions of the two words, platinum and reforming.

The process is described as a relatively low temperature operation, and it is through the use of these mild conditions that the reaction remains truly catalytic, and offers a new approach to the problem of converting straight-run and natural gasoline stocks which are less marketable because of low octane number.

Only a small quantity of platinum, in the form of platinum-containing pellets, is used as the catalyst. The catalyst has a long, effective life because it is protected by a process feature from the deposition of coke. The platinum is fully recoverable from the catalyst.

Vladimir Haensel
Universal Oil Products Company

Dr. Vladimir Haensel, co-ordinator, cracking division, Universal Oil Products Co., the author of this article, received his B.S. from Northwestern University and his M.S. from the Massachusetts Institute of Technology. He then joined Universal Oil Products Company, assisting Professor V. N. Ipatieff. In 1939 he helped to set up the Ipatieff High Pressure Laboratory at Northwestern University. He received his Ph.D. from Northwestern in 1941, and returned to Universal as a Research chemist. Dr. Haensel inspected German synthetic oil plants as a member of the Technical Oil Mission for the Petroleum Administration for War.

Platforming embraces a process for the reforming of gasolines in the presence of hydrogen, using a platinum catalyst. It is well known that there are tremendous quantities of straight-run and natural gasoline stocks which are becoming less marketable because of low octane number. The realization of this situation is not a sudden one, and the petroleum industry has been active in attempting to convert these stocks into a suitable motor fuel.

A tremendous amount of work has been done on noncatalytic processes such as thermal reforming and on catalytic processes such as hydroforming and desulfurization. Although the thermal and catalytic processes have come into commercial application, they do not provide an ultimate solution for the production of high yields of high-octane motor fuel from straight-run and natural gasoline stocks.

Over the years of research on the conversion of these materials into more valuable products, fundamental ideas have been formulated by U. O. P. which outlined the ultimate goal and ways in which such a goal could be achieved. First of all, it was realized that the ultimate process should be a catalytic one, free, as much as possible, from undesirable thermal effects. The reason for this is that thermal treatment or a high temperature, high pressure treatment in the absence of catalysts gives rise to reactions which are difficult to control and as a result a large portion of the liquid charge is converted into waste gas. Thus, it became apparent that in order to achieve this goal, one had to operate using a catalyst at conditions under which thermal reactions are essentially absent.

Multiple Reactions Involved

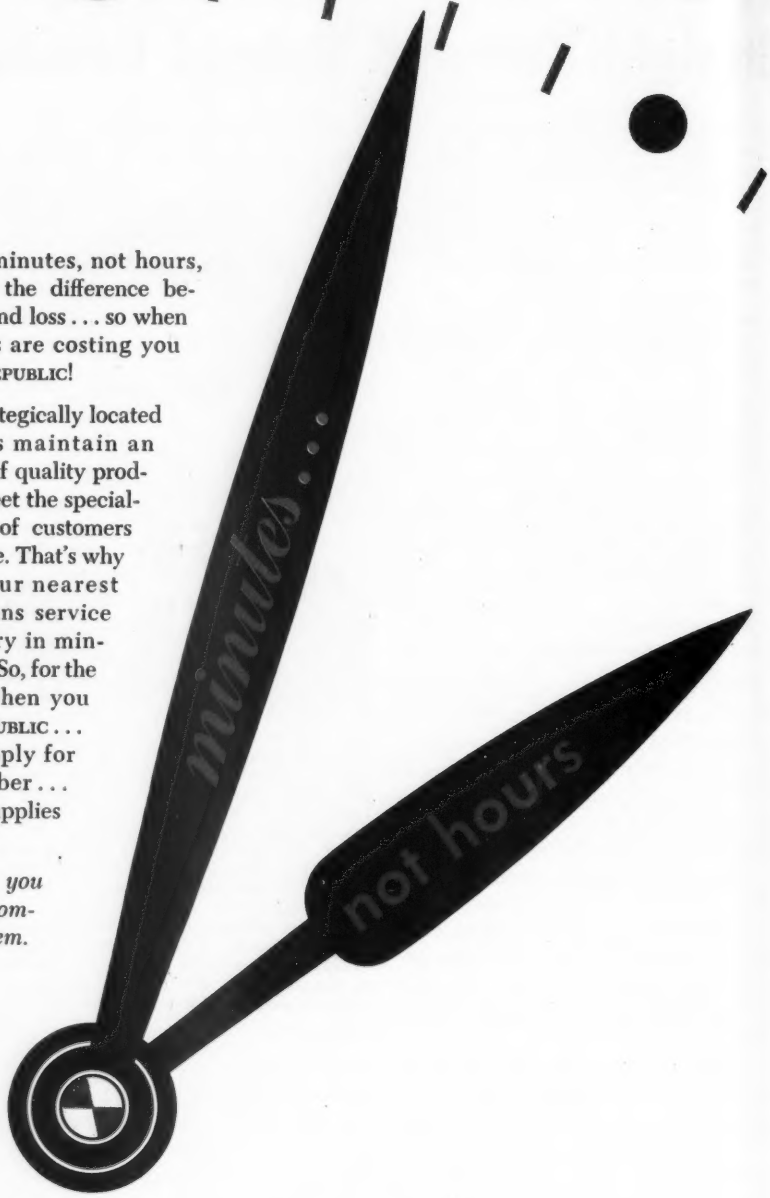
Next, it was realized that such a catalytic process had to be made up of a number of chemical reactions since gasolines contain different hydrocarbon classes, each class requiring a different chemical reaction so that the members of this class can most efficiently be converted into more valuable components. Furthermore, it became apparent that the rearrangement and conversion of the charging stock had to be extensive because there is no simple method of separating the products of the reaction from the charging stock.

Having established the fundamental principles of such an idealized process, it was necessary to find a suitable catalyst which could perform all these functions and at the same time have one other extremely important feature. This particular feature is the elimination of the need for catalyst regeneration, since regeneration is a costly and complicated operation. One merely has to consider the fact that no charging stock is processed over the catalyst during regeneration to realize that the efficiency of a nonregenerative operation and its inherent simplicity provides a practical solution for a refiner who cannot afford a large investment in a plant that remains nonproductive for a good share of the time.

Over the past years it has been found that the Platforming operation approaches closely to the ideal solution for the reforming of straight-run and natural gasolines. The functions of the catalyst in carrying out the desired reactions under conditions wherein wasteful side reactions are virtually eliminated have been realized in the laboratory, pilot plant and commercial operation.

Chemical Reactions Involved

There are three major reactions which occur in the Platforming of a straight-run gasoline. The first of these is the dehydrogenation of naphthenic hydrocarbons to the corresponding aromatic hydrocarbons. Under platforming conditions this reaction is very rapid and contributes substantially to the octane gain and heat of combustion of the gasoline. It is also highly endo-



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thermic, that is, it requires a high heat input and results in some volumetric shrinkage since the aromatic product is denser than the parent naphthene.

Another important reaction is the opposite of dehydrogenation from the standpoint of yield and heat of reaction. This is the reaction of hydrocracking wherein a high molecular weight hydrocarbon is decomposed into lower molecular weight compounds. This is not the reaction of thermal cracking, where a paraffin is cracked indiscriminately along the hydrocarbon chain, nor is it the reaction of catalytic cracking where the product consists of lower boiling paraffins and olefins. It can be considered as a simultaneous cracking-isomerization-hydrogenation reaction.

This reaction, as can be seen, produces isopentane and normal pentane from decane. In actual operation, the break in the molecule occurs not only in the middle, but also to the right and left of the center, so that butane and hexane, as well as propane and heptane, are formed also.

It is, therefore, apparent that the hydrocracking reaction balances the dehydrogenation reaction in that it provides for a lower density product and absorbs a part of the hydrogen which is liberated in the dehydrogenation reaction. The reaction is also exothermic and, therefore, provides some of the heat of reaction required for the dehydrogenation steps. The hydrocracking reaction is less rapid than the dehydrogenation reaction.

The third major reaction in Platforming is isomerization. The isomerization of paraffins proceeds readily at the proper conditions. In the case of normal heptane, this reaction is faster than hydrocracking.

Other Reactions Occur

There are other important reactions. These include dehydrocyclization, wherein paraffins are converted directly to aromatics, and desulfurization, wherein virtually all of the combined sulfur is converted to hydrogen sulfide.

The question naturally arises as to how the extent of the various reactions that take place are balanced to attain the optimum yield octane relationship. This is accomplished primarily by proper selection and preparation of catalyst. Secondarily, the operating conditions are adjusted to give the desired product distribution.

Low Methane Production

It should be emphasized that Platforming is unique among reforming processes from the standpoint of low methane production. In a process of this kind, methane production is undesirable from the standpoint of severe loss of liquid product, high exothermicity of the reaction which forms methane and high hydrogen consumption. The extremely low methane production is beneficial on the basis of high liquid yield and control of the reaction at all times.

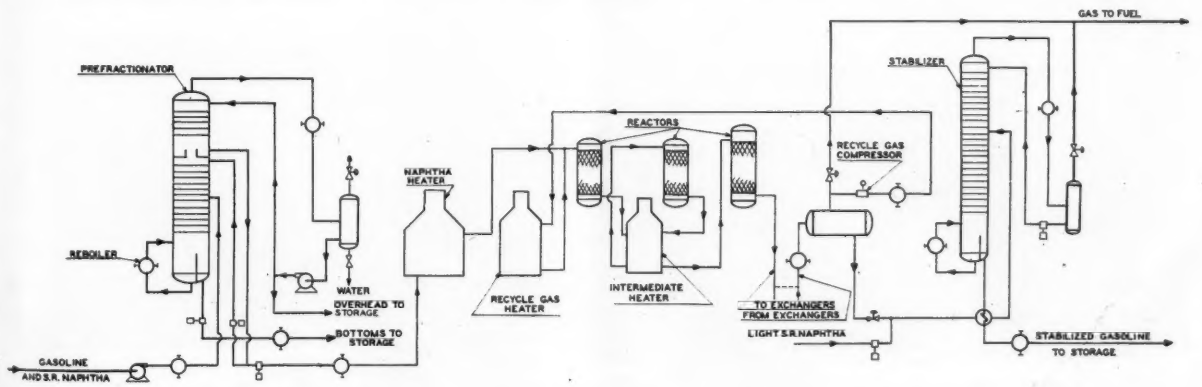
For example, with other catalysts, a high pressure condition leads to excessive methane formation and an exothermic condition is reached which is difficult to control. With the Platforming catalyst, on the other hand, a high pressure operation gives only a small amount of methane and as the temperature is increased the selective hydrocracking reaction is quenched by the dehydrogenation reaction.

Thus, there is no tendency to develop run-away temperatures in the operation of the process. In addition it should be pointed out that another undesirable reaction, characteristic of some reforming processes, and involving the formation of high molecular weight compounds, is essentially eliminated. Therefore, Platformates do not require rerunning.

Operating Variables

There are four major operating variables in Platforming. These are temperature, space velocity, which represents barrels of charge per hour divided by barrels of catalyst, pressure and hydrogen recycle rate. Over the past few years a considerable amount of information has been obtained both in the laboratory and in pilot plant operation concerning these variables with a number of commercial gasolines and pure compounds as charging stocks. The study of these variables as well as that of catalyst composition has been carried out in eleven laboratory and pilot plant units, ranging in throughput from one gallon to four barrels per day.

As might be expected, the relationships between these operating



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variables are complex and it would not be practical in this paper to discuss the many details which are necessary to obtain a satisfactory correlation of operating conditions. Only certain illustrative effects of major variables can be shown but it should be pointed out that these effects are influenced to a considerable degree by the particular type of charging stock and the values of the other variables employed. When a major variable is changed it usually is necessary to make an adjustment in the other variables to obtain optimum performance, that is, optimum performance from the standpoint of yield-octane number relationship as well as from the standpoint of catalyst life.

These factors must be kept in mind when examining the data presented in the discussion. Table 1 shows the results obtained in processing an initial boiling point to 350°F. boiling range straight-run stock from mixed paraffinic and naphthenic crudes.

Table 1

Effect of Temperature

Run	Charge	1	2	3	4
Ave. Cat. Temp. °F	....	813	843	873	903
Yield of C_4+, Liq. Vol. % of Chg.	100.0	98.0	96.8	95.0	91.6
RVP	5.5	6.0	6.7	8.3	11.4
Octane Numbers:					
F-1 Clear	60.8	67.5	74	80.5	89
F-1 + 3 cc. TEL	80.2	85	88	92.5	98.5
F-2 Clear	60.7	65	70	75.5	82
F-2 + 3 cc. TEL	80.0	82	85	88	91.5
% Aromatics in Product	9	19	27	35	45
% Over @ 212°F	31	34	36	41	46
Hydrogen Production, cu. ft./bbl.	....	166	318	420	466

The results shown indicate first of all that Platforming is a relatively low temperature operation, and it is through the use of these mild conditions that the reaction remains a truly catalytic one, with no interference from undesirable thermal effects. The results also show the increase in the aromatization reaction as well as in hydrocracking with increased temperature at the operating conditions employed. Since both reactions contribute largely to the octane number gain it is not surprising that high octane numbers can be realized.

Pressure Effects

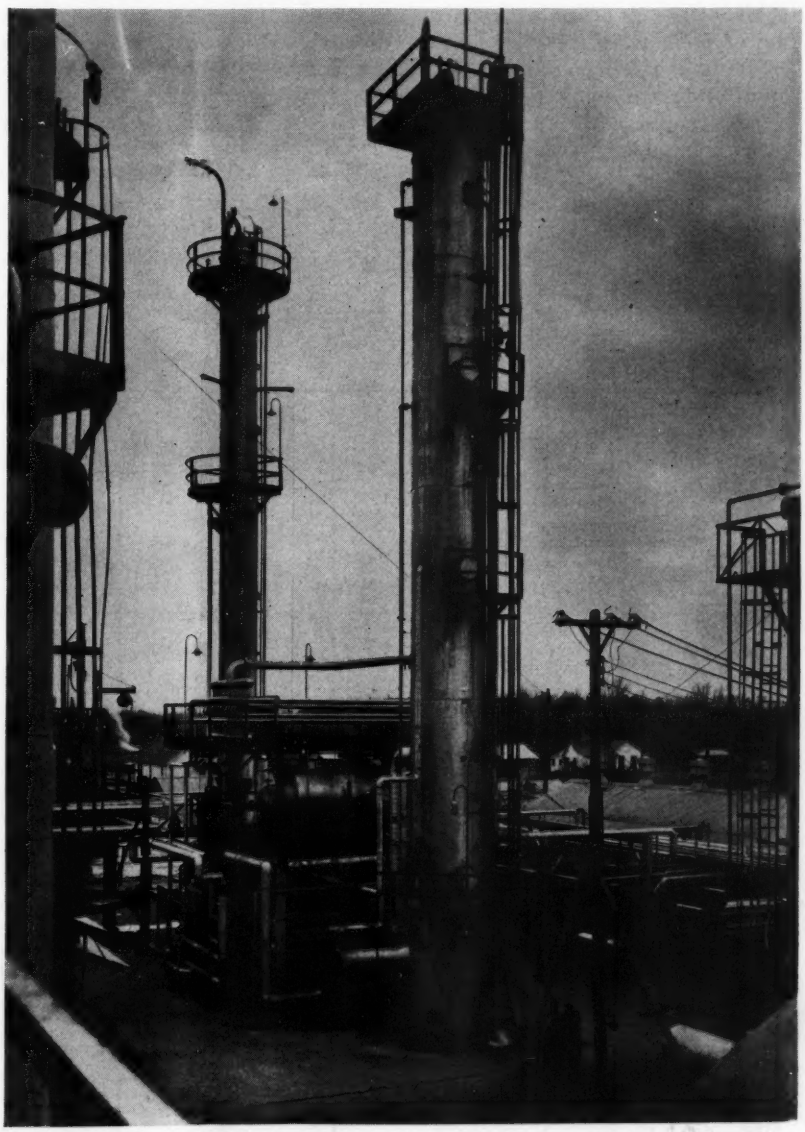
The effect of pressure as the major variable has been investigated and typical results are shown in Table 2. The charging stock consisted of a 247-404°F. Mid-Continent straight-run naphtha. It will be observed that a low pressure operation produced the most aromatics and the least amount of hydrocracking. At the highest operating pressure shown in the table, 900 psig., a larger part of the improvement in octane number is due to the hydrocracking reaction, since in this case the amount of hydrocracked material (as measured by percent over at 212°F.) is almost twice that obtained at the lowest pressure. The yield of butane is large at the highest pressure and in this particular case a small butane excess was obtained over that required for 10 pound RVP gasoline. Thus, it becomes apparent that by varying the operating pressure the Platforming operation can be carried out to produce either a more aromatic gasoline, which means more hydrogen

Table 2

Effect of Operating Pressure

Run No.	Charge	1	2	3
Pressure, psig.	....	500	700	900
Yields, Vol. % of Charge:				
C_4+ Platformate		92.6	92.9	93.2
C_5+ Platformate		86.5	86.1	83.5
10 lb. RVP Platformate (a)		97.3	96.4	92.4
Octane No. of 10 lb. RVP Platformate				
F-1 Clear	30.6	85.1	84.1	84.8
F-1 + 3 cc. TEL	52.8	95.2	94.3	94.9
% Aromatics, based on charge	7.1	53.9	47.9	45.4
% Over @ 212°F + Loss	0	12.7	18.9	22.7
Hydrogen Production, cu. ft./bbl.	....	685	488	287

(a) With outside butane 4.7% at 500 psig. and 3.5% at 700 psig.



Feed preparation in the Platform process is accomplished in a single column called a fractionator, shown in foreground, from which the desired boiling range reactor feed is taken off as a side cut. The liquid from the product separator passes through a stabilizer, shown in background, in which it is freed of a small amount of low-boiling fractions, and the vapor pressure adjusted. Condensers, receivers and heat exchange equipment are shown between the columns.

production and a gasoline of lower volatility, or a more volatile product with a lower aromatic content and lower hydrogen production.

The range of pressure used in the operation is limited at the higher value by economic considerations as well as by temperature required to produce a given quality Platformate. As the pressure is increased a limit is reached where thermal reactions may occur to such a degree that the yield-octane relationship deteriorates. The lower pressure limit is set by the decrease in the desired amount of hydrocracking as well as by possible carbonization of the catalyst.

The lack of carbon formation is due to the continuous prevention of formation of materials which lead to carbon, this prevention being carried out by hydrogen. If the partial pressure of hydrogen is maintained at a low value over prolonged periods of time there is a tendency for carbon formation to occur. Such a condition is prevented by providing a reasonable recycle gas rate thereby making the process a truly nonregenerative one.

Hydrocracking Slower

It has been pointed out earlier that the dehydrogenation reaction is a relatively fast reaction while hydrocracking is considerably slower. A study of the effect of space velocity substantiates this statement. Tables 3 and 4 show the results obtained in processing a Mid-Continent naphtha at various conditions in which space velocity was a principal variable. It will be observed that, according to Table 3, a change in space velocity from about 5 to 2 increased the extent of hydrocracking three-fold (as measured by percent over at 212°F),

Table 3

Effect of Space Velocity
Mid-Continent Naphtha 230-395° F
Catalyst A

Test No.	Charge	1	2	3	4
L.H.S.V.	....	4.9	3.9	3.0	1.9
C_4+ Yield, Vol. %	....	95.6	95.4	95.1	94.1
RVP	....	4.5	5.2	6.4	6.9
F-1 Clear	35	70	74	76.5	82
F-1 + 3 cc. TEL	59.5	86	89	90.5	93
% Aromatics in Product	7	37	39	39.5	41
% Over @ 212°F + Loss	....	8.3	13.5	16	24
H_2 Production, cu. ft./bbl.	....	495	475	470	430

Table 4

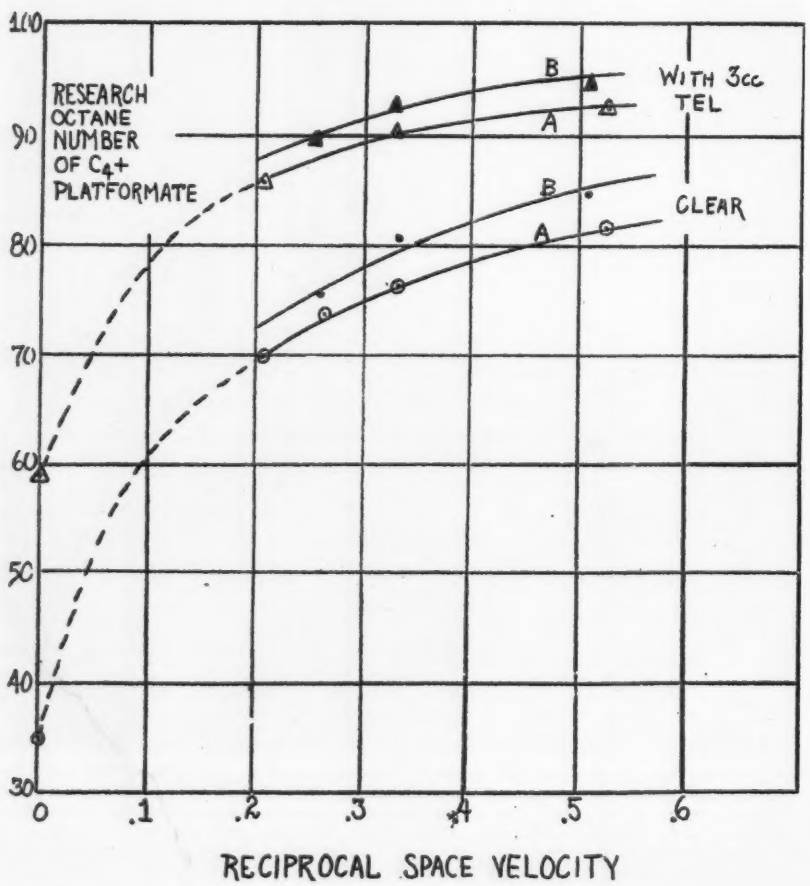
Effect of Space Velocity
Mid-Continent Naphtha 230-395° F
Catalyst B

Test No.	1	2	3
LHSV	2.0	3.0	4.0
C_4+ Yield, Vol. %	91.8	93.9	95.1
RVP	12	10	6.9
F-1 Clear	85	81	76
F-1 + 3 cc. TEL	95	93	90
% Aromatics in Product	43	40.5	38
% Over @ 212°F + Loss	32	25	17

while the aromatization reaction, already very extensive at the highest space velocity, was affected only slightly. The results obtained with a somewhat more active catalyst are shown in Table 4. (in this series) where a higher octane number is reached at the same operating conditions. These results are also summarized in Graph I correlating the research octane numbers and reciprocal space velocity.

GRAPH I

EFFECT OF SPACE VELOCITY



The discussion of the effect of operating variables brings out also the flexibility of operation. As has been shown, the ratio of the reactions that occur in Platforming can be varied so that it is possible to obtain a number of volatility-octane relationships instead of one single relationship as is true in the case of thermal reforming. This flexibility of operation permits the production of fuels that have a range of volatilities depending upon the over-all refinery economics.

Platformate Properties

The previous discussion has dealt with the product of Platforming from the standpoint of aromatic concentration, volatility and octane number. At this point it is worthwhile to mention briefly some of the other properties of the Platformate. These are sulfur contents, storage stability, and road performance.

Table 5 shows the sulfur contents of the charging stocks and products and the corresponding leaded research octane numbers at a variety of severities.

The results shown in Table 5 indicate that the sulfur removal from different stocks varies from 88 to 99 per cent, the initial sulfur content having no bearing on the extent of desulfurization. In other words,

high sulfur stocks are desulfurized to the same extent as low sulfur stocks.

Table 5

Source	Sulfur Charge	Sulfur Product	% Reduction	F-1 + 3 cc. TEL
Michigan	0.045	0.0027	94	96
Gulf Coast	0.019	0.0023	88	93
Mid-Continent	0.040	0.0042	90	95
California (1)	0.102	0.0005	99	95
California (2)	0.14	0.0036	97	97

Storage Stability

A number of storage stability tests have been made on Platformates produced in pilot plant operation. Table 6 is a summary of the storage results using a Platformate from a Michigan stock. The tests were made in vented bottles at 100°F. and no inhibitor was added.

Table 6

Storage Stability Tests

	Start	2 Mo.	4 Mo.	6 Mo.	9 Mo.
Peroxide No.	0.1	0.98	0.7	0.8	0.7
Induction Period, Min.	>1020				
ASTM Gum	0	1	0	0	1
Color °Saybolt	21	17	15	15	15

It will be observed that the Platformate is very stable in storage. The addition of inhibitor is required only for the purpose of retaining tetraethyl lead in solution in the same manner as is necessary for straight-run gasoline. A slight drop in color has been observed to occur over the period of storage.

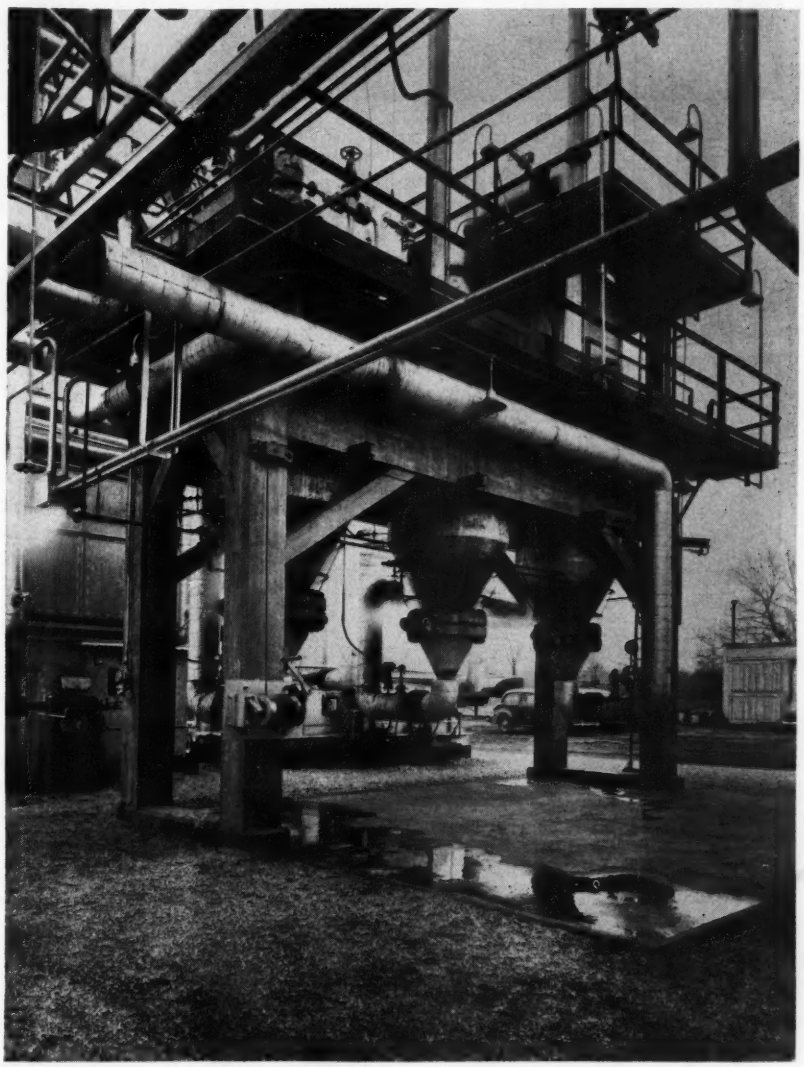
A considerable amount of work has been done by our Automotive and Aircraft Department in connection with the road performance of a variety of Platformates. It is planned to present a paper shortly dealing with the properties and performance of Platformates; therefore, only brief mention will be made at this time. It is known that most gasolines have a road performance equivalent to a value between the research and the motor octane numbers. It has been found that Platformates have a road performance value which equals or substantially exceeds the research octane number, the magnitude of this gain being dependent upon the nature of the charging stock and the severity of the Platforming operation.

Platforming Mixed Gasolines

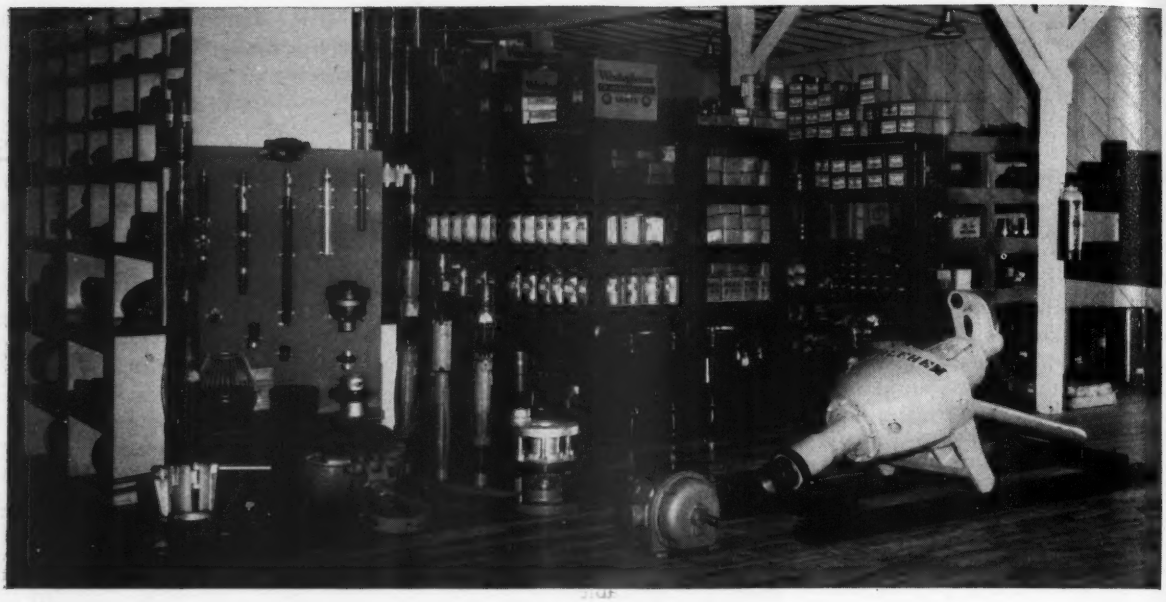
The inclusion of an olefin containing material in the charge to a Platforming unit results in the formation of a product very similar in quality to that produced from straight-run stocks alone. In view of the fact that the lower boiling fraction of thermally cracked gasoline, that is the material boiling below about 200°F., is a good fuel from the standpoint of octane number, only the higher boiling fraction of thermally cracked gasoline should be included in the charge to the Platformer. The higher boiling fraction from thermally cracked gasolines is, on the other hand, a poor fuel from the standpoint of octane number, sulfur content and storage stability. The conversion of this fraction to a Platformate type of gasoline eliminates all these undesirable properties.

Since olefin containing stocks usually cannot produce as much hydrogen as straight-run gasolines, the processing of cracked gasoline in a mixture with straight-run is normally desirable from the standpoint of maintaining a high hydrogen concentration in the recycle gas. The processing of blends containing equal parts of cracked and straight-run naphthas proceeds very satisfactorily with a substantial hydrogen production.

To illustrate the Platforming of cracked stocks Tables 7 and 8 give the results obtained in processing a West Texas cracked naphtha



Shown in the foreground are the platinum catalyst reactors. The reaction zone consists of three simple non-heated reactors; and an intermediate heater (shown in background) for supplying heat of reaction. The intermediate heater has two coils, which preheat the effluent from the first and second reactors in series prior to introduction into the subsequent reactor. The reaction is carried out at temperatures in the range of 850°-925°F. and at a pressure of 700 pounds per square inch.



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alone and a blend of equal parts of full-boiling range West Texas straight-run gasoline and cracked naphtha. We have obtained data on the Platforming of a West Texas straight-run gasoline and found that it undergoes a normal upgrading in quality.

Table 7

Platforming of Cracked Naphtha

Run No.	Charge	1	2	3
Boiling Range °F	275-387	133-420	117-420	106-426
Octane Numbers:				
F-1 Clear	60.2	74.9	79.6	89.1
F-1 + 3 cc. TEL	71.8	87.9	91.6	98.0
% Sulfur	0.49	....	....	0.0045
Bromine Number	56	2	1	1

Table 8

Platforming of a 50:50 Blend of Cracked Naphtha and Straight-Run Gasoline

Run No.	Charge	1	2	3
Boiling Range, °F	102-394	108-407	105-408	88-406
Octane Numbers				
F-1 Clear	55.9	78.2	84.4	89.9
F-1 + 3 cc. TEL	69.0	90.9	94.8	97.9
% Sulfur	0.33	....	0.0036	....

The results indicate that thermal gasolines are very susceptible to Platforming and very high octane number fuels have been produced. The reduction in sulfur content should be of interest in a number of refineries where high sulfur crudes produce a high sulfur gasoline on thermal cracking.

The properties of the blend of the Platformed cracked naphtha with the untreated lower boiling fraction of the cracked gasoline has also been investigated. It was found upon comparing the road performance of this blend with the road performance of the original full-boiling range thermal gasoline that the material containing the Platformed fraction was superior to the thermal gasoline by a margin exceeding fifteen octane numbers.

Process Economics

The economics of any process is of course, of major importance to the refiner. It is not the purpose of this paper to go into details of the economics of Platforming, but merely to point out the over-all picture.

The exact prediction of the economics of any proposed installation depends on an accurate forecast of the market for and the prices of both the charging stock and the product over the period of the life of the plant, which is obviously impossible. We can, however, make certain generalizations which are believed to be accurate:

1. The present trend to emphasize quality will continue. This will result in an increasing differential between the values of charge and of product.

2. The refiner who operates the process which can produce the highest quality product will be best able to survive in a competitive market.

3. The process which has the better yield-octane relationship will have the better economic advantage.

4. As has been shown in the data presented in an earlier section of this paper, Platforming provides for an extremely high volumetric recovery of an exceptionally high quality gasoline produced in a simple unit having a low operating and capital cost.

The operating cost of a Platformer that has a capacity of 1500-2000 barrels per stream day is shown in the Table 9.

Table 9

Operating Costs for Platforming 1500-2000 BPSD Charge

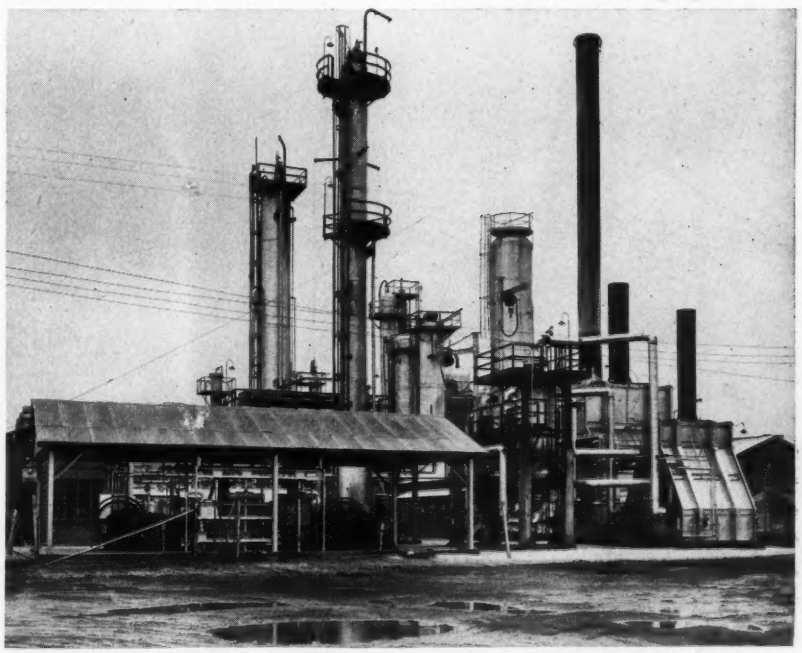
	Cents per barrel reactor charge
1. Operator and part time helper per shift	4-5
2. Maintenance	3-5
3. Taxes and insurance	4-5
4. Utilities	4-5
5. Catalyst	less than 10
6. Royalty (escalator)	7
Total	30-37

The figures shown are somewhat conservative. The value given for utilities does not include the fuel gas; however, it is found that the Platforming process is normally self-supporting from the standpoint of the heaters' fuel gas requirements.

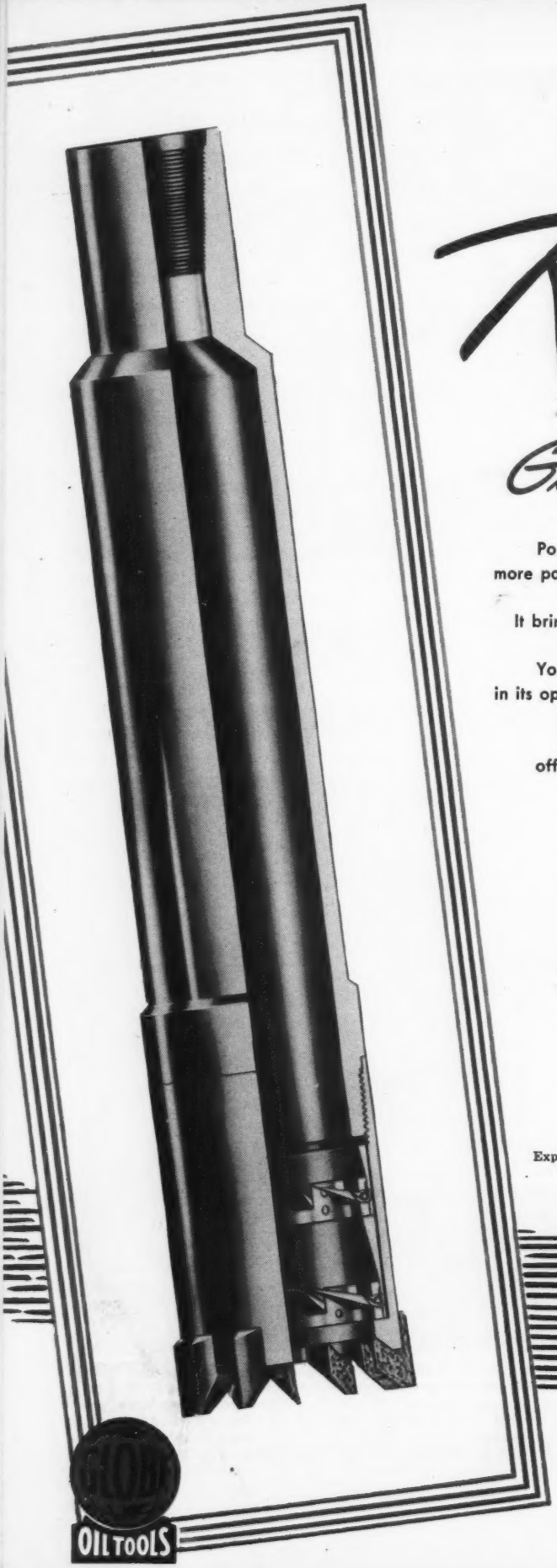
Estimates have been made for the cost of Platforming units. Naturally, these values will vary depending upon the local conditions. However, assuming an average labor cost in the Mid-Continent area and all new equipment these values range from about $700,000 for a 1500-barrel per stream day charge to reactors to $1,600,000 for a 5000-barrel per stream day charge and $2,500,000 for a charge of 10,000 barrels per stream day.

Commercial Operation

At this time it is of interest to describe briefly the progress of the first commercial Platforming unit at the Old Dutch Refining Company at Muskegon, Michigan. Referring to the simplified flow diagram of the Platforming unit, showing the prefractionator, the naphtha and recycle gas heaters, the three reactors, the separator, the compressors and the stabilizer. The unit was started on October 28, 1949, and has been in essentially continuous operation since that time, charging on the



Platforming Unit, Old Dutch Refining Company, Muskegon, Michigan, showing recycle gas compressors on the left, reactors in the right center, and intermediate heater on the right. In this installation, naphtha of 180°-360°F. boiling range produced from Michigan crude oil and having a clear octane rating of 50 (68.5 with 3. ccs TEL) is being converted into Platformate, a new gasoline with a Research Method octane rating of 82-86 clear; 92-96 with 3. ccs TEL. The loss involved is low, and of the order of 6 percent.



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average 900-1000 barrels per stream day of a 180-360°F. naphtha. More recently the throughput on the plant has been increased to about 1500 barrels a day.

The performance of the plant has been highly satisfactory and, except for a few mechanical troubles which usually accompany the first try-out of any new equipment, the operation has proved itself to be exceedingly simple. The operation has been conducted at 860-890°F average catalyst temperature and 700 psig. pressure. It is interesting to note that the original plan was to operate to obtain a product with a leaded research octane number of 89-90. However, during the intervening period of construction, which required 139 days, the refiner was called upon to produce a considerably higher octane product.

As a result, the unit has been operating at somewhat different conditions to produce a leaded octane level of 93 with a yield of 94.5 percent by volume. At one time the unit was operated for a period of several weeks to produce a Platformate having a leaded octane number of 95.8 with yield of 90 volume percent. The total gas production amounts to about 900,000 cubic feet per day of which more than one-half is vented from the separator and contains 80-85 percent hydrogen. The remaining gas is vented from the stabilizer overhead.

Table 10 gives a typical charge and product analysis from the Old Dutch operation.

Table 10

Old Dutch Refining Co. Platforming Operation

	Reactor Charge	Product	Reactor Charge	Product
Gravity °API	56.9	57.6	60.0	62.1
IBP	203	88	176	86
10	220	123	192	129
50	255	240	239	215
90	300	319	302	306
E.P.	333	355	358	364
RVP	0.8	13.6	....	10.0
F–1 O.N. Clear	50	86.1	49	81.3
F–1 + 3 cc. TEL	68.5	95.8	67.5	93.2
Sulfur	0.0450	0.0020	....	....

One of the most significant and important features of the Old Dutch Platforming Unit operation is the performance of the catalyst. Over the past four months of operation no indication has been found of any catalyst deactivation, and it is expected that the catalyst will remain in service for a long time.

Editor's Note: A more complete discussion of the chemistry of this process is contained in the author's presentation before the recent meeting of the Western Petroleum Refiners Association.

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A Golden Anniversary

Fifty years—a half century—changes and more changes have taken place. Here in California, the development of our Oil and Industrial Activity was never so imagined; from the year of 1900, where small "Manufacturing Plants" and "Oil Development" was in its infancy, to the year of today, 1950—which now places California as the leader in Oil Development and Manufacturing Facilities in the United States. While this progress in Oil Development and Manufacturing Facilities was growing, it was also the period when one of the "Pioneers" in both industries was keeping pace with present and future developments. Now while California is acclaiming the Centennial of Statehood, the year 1950 will also record the Golden or Fiftieth Anniversary of the founding of the Union Oil Tool Company later (in 1908) to be known as the Union Tool Company—which became affiliated with The National Supply Company in 1920.

The history of The National Supply Company Torrance Plant and its predecessor plant has spanned the last fifty years of the first one hundred years' history of the State of California, a record unique in Western industry. In this span of fifty years there has been a steady growth from the original frame building with a blacksmith forge and a limited assortment of belt driven machine tools of that period to the Torrance Plant of today, occupying 38 acres with 660,000 square feet of modern steel buildings, equipped with modern manufacturing facilities and with an organization that has contributed greatly to the advancement of Oil Field Equipment used throughout the world.

To provide these modern manufacturing facilities, constant changes and improvements in machinery, buildings, layouts, etc., must take place. Since VJ-Day a modernization program has been in process at The National Supply Company Plant in Torrance which entailed a three and one half million dollar expenditure.

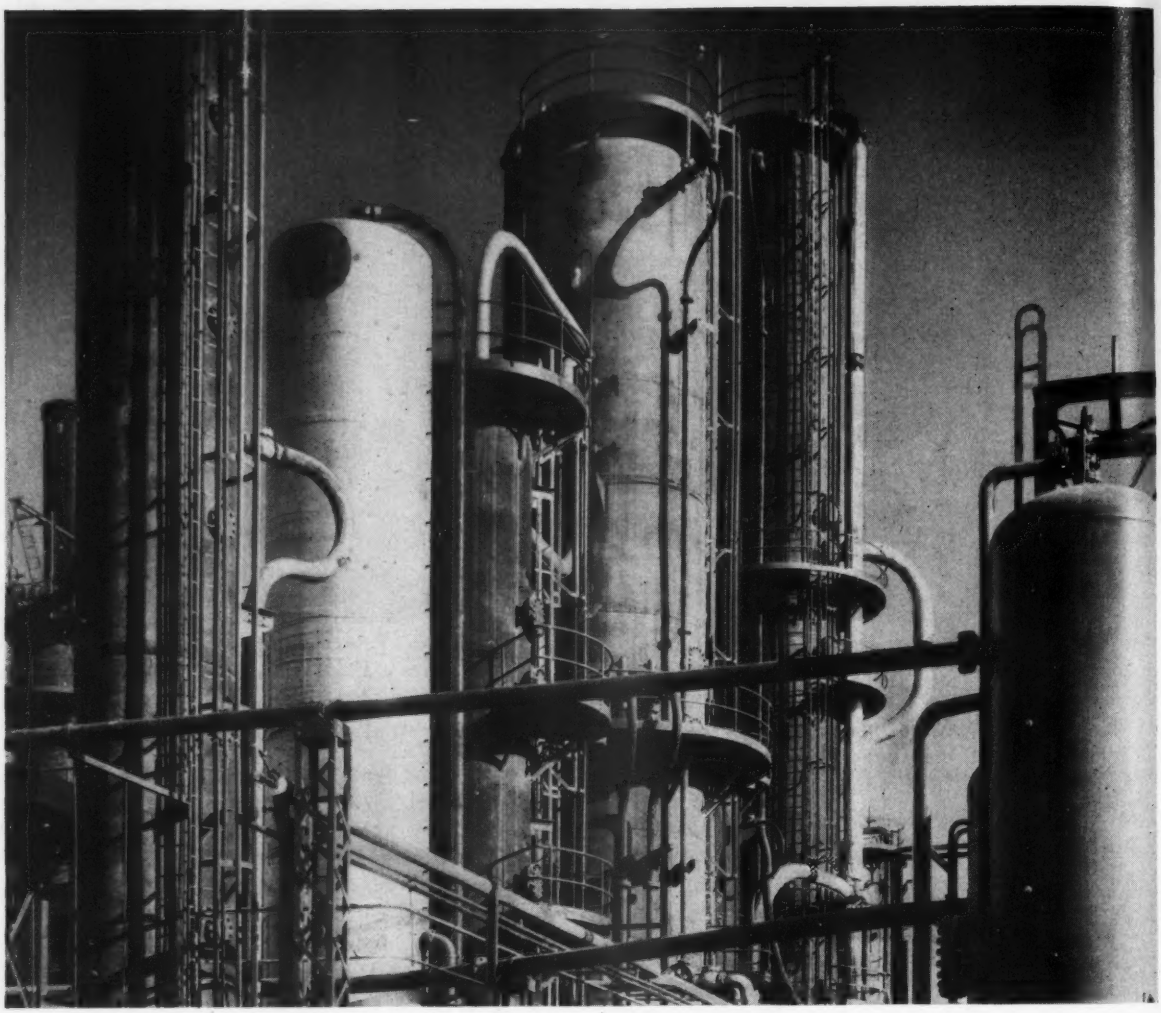
This program began with the complete rearrangement and modernization of the Steel Foundry. It provided for a systematic layout of Electric Furnace Operating Supplies, two new Electric Steel Melting Furnaces, new overhead Belt Sand Conveyors for use in the Molding and Core Room Sections, the installation of Stationary and Mobile Sand Slingers, new Swing Grinders, new Core Room and Annealing Ovens and many material handling pieces of equipment to provide the ultimate in Steel Foundry facilities.

Another phase in the modernization program consisted of a complete change in the various types of heavy and light Machine Tools, which entailed new Engine Lathes, Turret Lathes, Vertical and Horizontal Mills, Planers, Shapers, Keyseater, Gear Cutters, Radial Drills, etc. This modernization was also carried into the Assembly Department where more floor space was provided to assemble the various types of Draw Works, Swivels, Rotary Machines, etc.

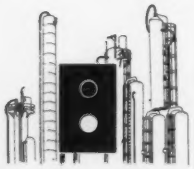
In the Welding Department, an entire new departmental layout was made, equipment locations revised, new material handling equipment purchased and the arrangement of the working area improved.

In order to provide the power for the operation of all these activities, an entire new Electrical Distribution System was required. This entailed a new power Sub-Station with underground power distribution cables serving all points of activity on the 38 acre plant track. At centrally located places in the Plant, individual power distribution centers were modernized in order to distribute the power to the various Plant locations. This consisted of new Transformers, Air Compressors, Switch Gear Distribution Panels and a complete tie-in from one power station to another, insuring the most economical operation at all times.

Center section view in the Machine Shop where various Grinders, Drill Presses, Planers, Lathes, Milling Machines, etc., are located. In the photo can also be noted various Oil Tool parts such as Bearing Races, Shafts, Sprockets, Rotary Gears, etc., that are used in the production of Oil Tool Equipment.



Consider electric equipment ...exactly right!



Oil is one of those products which bears the "Handle with Care" label at every step from the time it is discovered in the depths of the earth. It isn't an easy substance to deal with, and the more processing it goes through, the more important control becomes. In the field, in the pipeline, at the refinery, control and timing make all the difference in the world. Greater accuracy means better products.

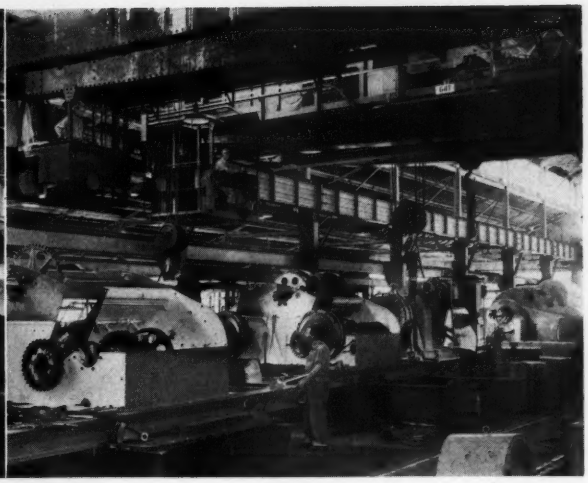
That's one reason more and more operators are choosing electric equipment. Temperature is always right to the "nth" degree. Timing is always right on the split-second, and electricity itself is the same efficient, dependable power day or night, rain or shine. No other power does so many jobs so well.

For complete information on electric power services for the oil industry, ask an Edison oil field engineer. His services are available without cost or obligation.

SOUTHERN CALIFORNIA EDISON COMPANY

Edison

Photo shows the rearrangement of the new Electrical Melting Furnaces in the Steel Foundry. In the foreground is the 25 Ton Furnace, with the 9 Ton and 6 Ton Furnaces in the background.



A section in the Assembly Department in the main craneway where the assembly of two 75, and two 100 Draw Works are being completed.

Aware that material handling costs can be tremendous in a large plant activity, a complete change in the material handling equipment was initiated in order to modernize the method of movement of materials. This consisted of new Fork Lift Trucks, Mobile Cranes, Yard Cranes, Locomotive, Inter-Plant Trucks, Heavy Duty Trucks and smaller inter-departmental material handling pieces of equipment.

Knowing the need for efficient shipping facilities, the modernization program was also carried into the Plant Warehouse, where additional overhead Crane facilities were installed, building extensions made, additional Scale facilities installed and many other smaller pieces of equipment purchased to provide efficient shipping accommodations.

This same progressive modernization program was also carried out in the Pattern Shop and Tool Room Departments where new Lathes, Grinders, Drills, etc., were purchased to provide these departments with accurate equipment for their detailed job assignments.

The above program was completed and working before the latter part of the modernization program could be started. This was contingent upon the purchase of Navy Facilities which were located on the same Plant acreage. These facilities were not purchased until the early part of 1949. After an agreement on the purchase of the Navy Facilities, the last chapter in the modernization program was started. This consisted of building and erecting Storage Facilities for the safe keeping of special equipment required to be kept intact pending reactivation under the provisions of a National Security Covenant. After removing this equipment and placing it in storage, the relocation of the Field Shop Department began to take place. In the same building, many other large changes were planned which consisted mainly of an entirely new Forge Department. In this new

A new 14 foot Betts Vertical Boring Mill which was recently installed for the expansion in oil tool requirements.

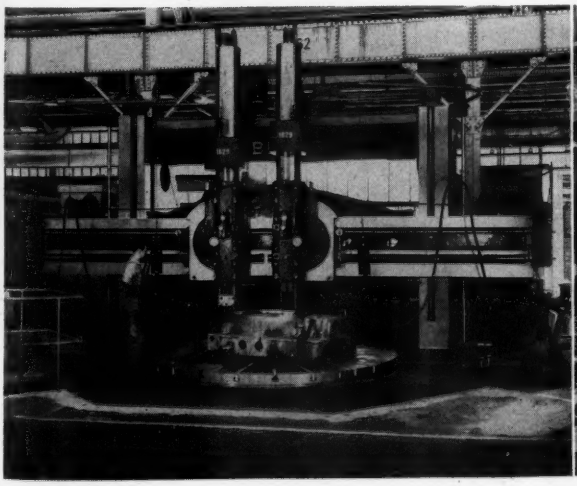
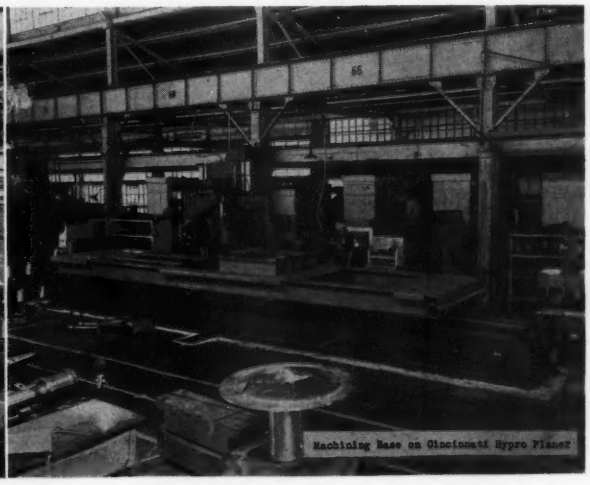


Photo shows the operation of planning the Frame Base of a Draw Works, on a new Hypro Planer which was recently installed.

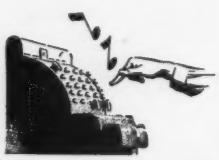


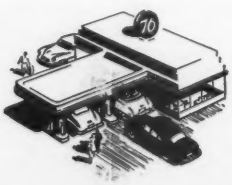
Ever wonder who runs the oil companies?

1. If you ask the average American to tell you who runs this country, he'll answer that the people do. He may qualify that some by admitting that the President, the Congress and the other officials in Washington make the day-to-day decisions. But he knows that in the final analysis it the people's vote and the people's opinion that really determine how our country shall be run.

2. Ask the average American to tell you who runs American business and 9 times out of 10 he'll tell you it's "management" or "Wall Street" or "Big Business." Actually, the American people have *far more voice* in the conduct of American business than they have in the conduct of American government. Because they cast thousands of times as many personal votes on it each year!

3. For example, every time an American in our marketing territory buys 5 gallons of gasoline he casts a "vote" for or against Union Oil Company, its products or its services. During the course of each week, practically every one of the 5-million-odd car owners in our territory "votes" at least once on this issue. At the same time, several million more "votes" are being cast that week on the hundreds of other products we make.





4. The combined total of these "votes" by the people in this country determines Union's *entire course of action*—whether it shall be big or small, whether it shall expand its drilling operations or curtail them, whether it must raise its prices or lower them, whether it shall succeed or fail.

5. When you realize that this voting on Union Oil Company policy (and the policies of all American business) is going on constantly 24 hours a day—the "ayes" with a resounding ring of the cash register, the "nays" with an equally resounding silence—you begin to understand that the person who actually runs American business is *you*, the American customer. Furthermore, you "vote" thousands of times oftener each year on the conduct of American business than on the conduct of the American government.

UNION OIL COMPANY

OF CALIFORNIA

INCORPORATED IN CALIFORNIA, OCTOBER 17, 1890

This series, sponsored by the people of Union Oil Company, is dedicated to a discussion of how and why American business functions. We hope you'll feel free to send in any suggestions or criticisms you have to offer. Write: The President, Union Oil Company, Union Oil Building, Los Angeles 17, California.

An inside view of the Welding Department where the prefabrication of Frames takes place and all welding requirements that can be performed prior to Assembly are completed.

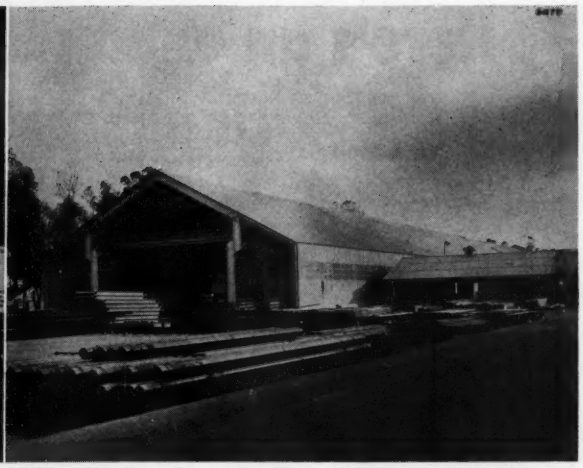


Photo showing the new Plant Warehouse extension which provides additional shipping area along with new crane facilities. In the foreground can be seen Pipe Supplies for Oil Tool needs.

The new Hammer Shop which provides adequate facilities for each hammer.

The new Forge Manipulator at work under the 1500 Ton Steam Hydraulic Forging Press reducing an Ingot into a special Billet size. In the background can be seen the Mobile Bridge and the large Preheat Furnaces which are all a part of this work unit.

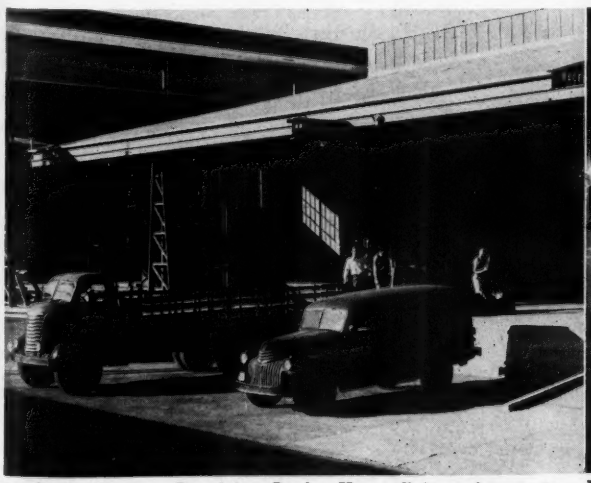
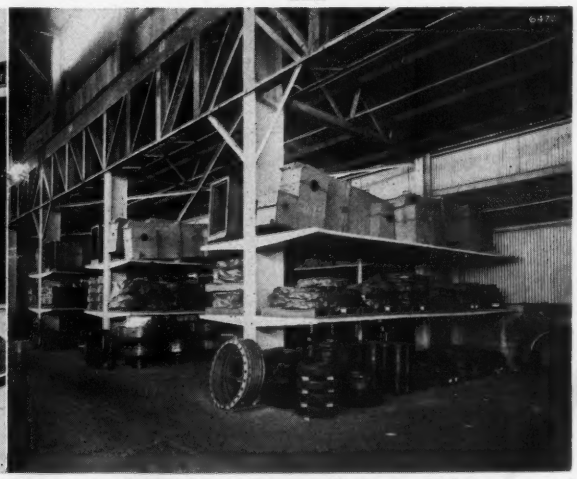


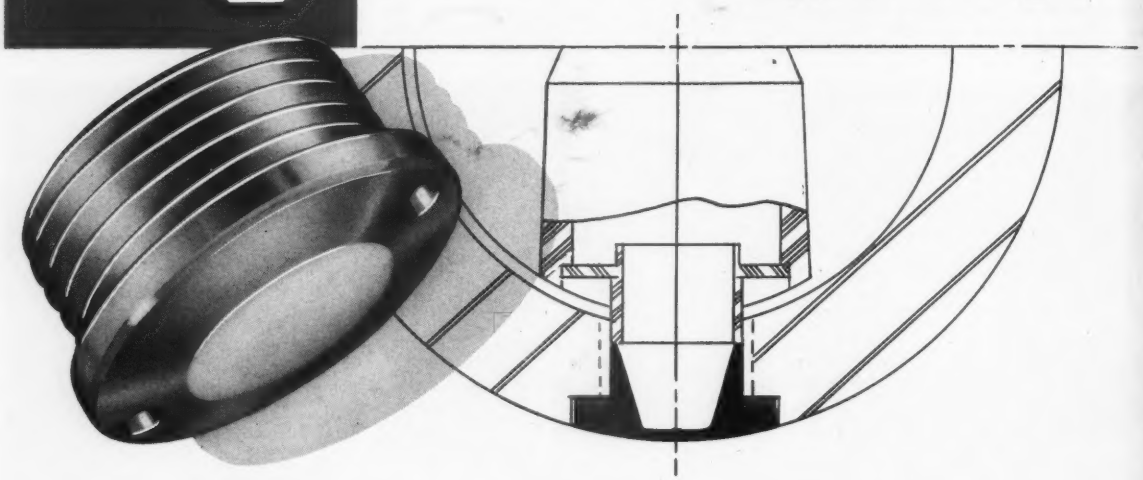
Photo shows the new Receiving Dock. Here all incoming parts are received and distributed to the various plant departments.



New type of Cantilever Storage Shelves which were erected in order to provide adequate storage space for heavy Oil Tool parts. In the foreground can be seen various Guards, Pins, Sprockets, Gears, Chains, etc.

Here's an example of how you get cleaner perforating through

BJ Perfo-Jet engineering!



The BJ Retained Screw Port is *another* example of how BJ Perfo-Jet engineering works *for you*. One of these units covers each port through which the Perfo-Jet charge is fired, sealing well fluid from the carrier. Its importance is measured not by the engineering that went into it—*but by the fact that it eliminates leaving any metal in your well!* It is designed to be *retained in carrier* and removed at the surface after the perforating operation.

BJ's Retained Screw Port was no overnight development, but the result of continual designing, experimenting, testing and proving before acceptance for use in Perfo-Jet perforating.

BJ's completely engineered equipment assures positive penetration... round, clean holes, accurately placed... and uniform results throughout the producing zone. Do the job *right* the *first* time—

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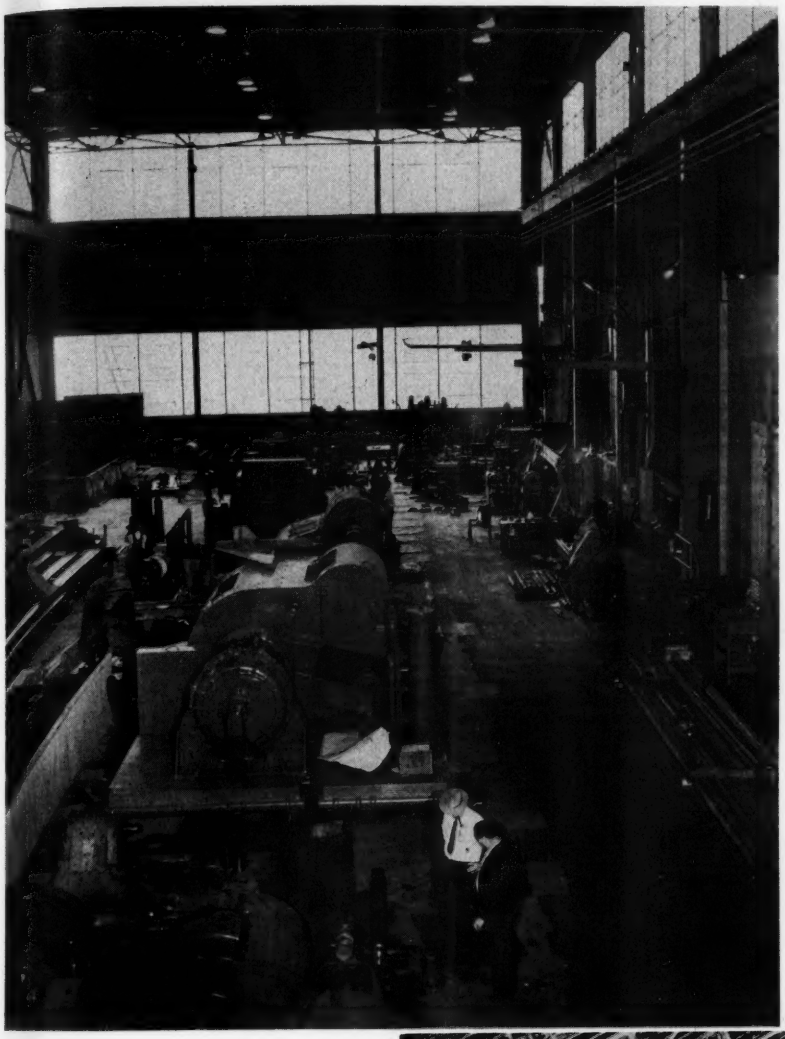


Photo showing the new Field Shop Department. In the foreground can be seen various Draw Works that have been brought back into the plant for cleaning up and reconditioning. This department devotes its entire facilities for maintenance of Oil Tool Equipment for Customer Requirements.

Forge Department, such changes as the relocation of a large 65 foot long Rolling Furnace was made, purchase and installation of a Forge Manipulator, new Preheat Furnaces, the relocation of a 1200 Ton Steam Hydraulic Forging Press, etc.

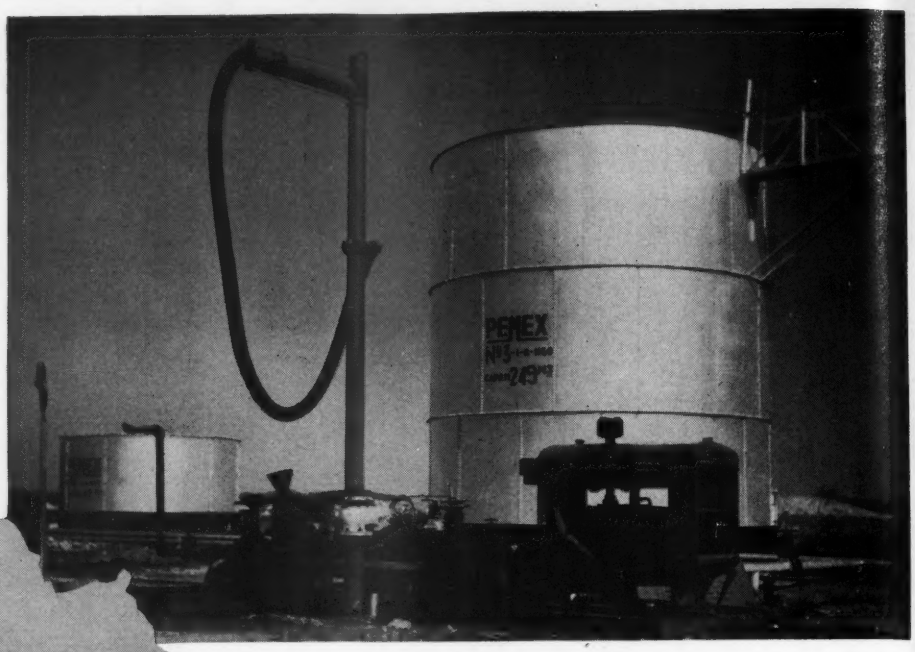
The new 10 Ton Forging Manipulator installation provides complete material handling from the Preheat Furnaces to the 1500 Ton or 1200 Ton Forging Presses. This is accomplished by a Mobile Bridge arrangement with special run-off tracks to each Forging Press. There is probably no other arrangement comparable to this one in existence. To provide an ideal arrangement of equipment vs. material handling, the relocation of the entire Hammer Shop next to the Forge Shop was made. Here an entire new building structure was erected, with a systematic arrangement of Steam Hammers providing the ultimate in Forge Hammer Facilities. New Overhead Crane facilities, Preheat Furnaces, Holding Furnaces, etc., were provided for each Hammer, consolidating all equipment requirements. A new 12,000-pound Steam Hydraulic Drop Forging Hammer was also installed with a Trim Press, which units will be used for Drop Forging Requirements.

With the consolidation of the two Forge Facilities, building space was available for the construction and relocation of the Stores and Receiving Departments. Prior to this building accommodation, the Stores stock was located in some 20 different plant areas. In the modern Receiving facilities, new offices, material storage racks, steel bins, etc., were completed, providing the finest undercover heavy type of equipment storage. A new centrally lo-

(Continued on Page 39)

On interior section of the Plant Warehouse. In the foreground can be seen some Draw Works, Engines, Traveling Blocks, Sprockets, Pumping Units, etc., in preparation for packing prior to shipping.

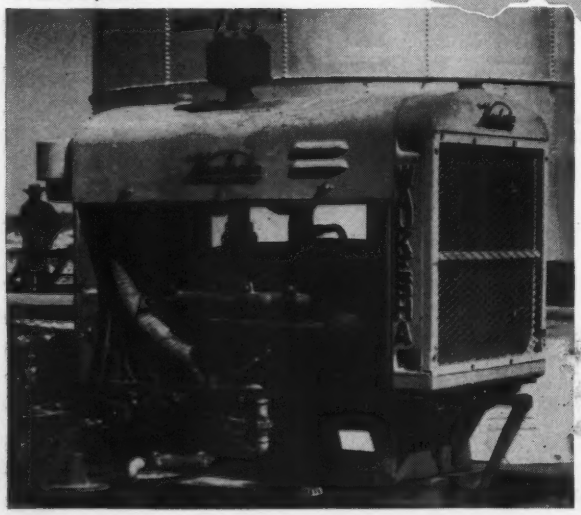
Photos by Mary St. Albans
Mexico City



SOUTH of the BORDER...

WAUKESHA powers the pumps

Waukesha 6-MZAU Oil Field GAS POWER UNIT—60-80 hp.—6-cyl., 4¼-in. bore x 4¾-in. stroke, 404 cu. in. displacement.



● Handling crude oil from stock tanks to trucks for delivery to the refinery in the Reynosa field in the State of Tamaulipas, Mexico—the Worthington pump is direct-connected to a Model 6-MZAU Waukesha Power Unit burning natural gas. In any oil field . . . South of the Border . . . or North . . . look for Waukeshas at work. In this unit the thousands of oil field horsepower-hours back of its dependable design make it rugged and reliable in service. A power plant of 404 cu. in. displacement, with 4¼-in. bore and 4¾-in. stroke, the six-cylinder MZAU Waukesha Power Unit will deliver 58 hp. continuously under full load. Maximum output is 86 hp. at 2200 rpm. It's all real horsepower—sure, solid and smooth. In the engine's design, the combination of the Waukesha Manifold and Controlled Turbulence Combustion Chamber not only increases power and torque output, but betters fuel economy. Details in Bulletin 1408. And for the entire Waukesha Power line, send for Bulletin 1079.

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Field Development

Los Angeles Basin

Wilsona Try Digs

Drilling has reached 790 feet in the Walter Stravo Ralph Arnold No. 1 well on Sec. 27-6n-8w in the Wilsona area, Los Angeles County.

San Fernando Wildcat Works

Drill pipe stuck while Standard of California was feeling for plug off bottom at 9739 feet in the company's Woo No. 1 wildcat near San Fernando. The well is on Sec. 19-2n-15w and top of fish is placed at 9297 feet.

East Coyote Well Completed

Bartholomae Corporation has finaled its Stern No. 19 on Sec. 22-3s-10w in the East Coyote field at a plugged depth of 4915 feet. The well is putting out 30 barrels a day. Union Oil has staked Sunny Hills No. 6 on Sec. 22-3s-10w.

Del Valle Well Deep

Drilling continues on down at a depth of 12,705 feet in the R. E. Havenstrite, Operator, Lincoln No. 16 in the Del Valle area, Sec. 16-4n-17w.

Winchester Wildcat Idle

Idle at 216 feet is the report on the Ella Chisholm Dorn No. 1 test on Sec. 16-5s-2w in the Winchester area, Riverside County.

Calabasas Try Repairs

Rig is being repaired on the Trower and Trower wildcat well on Sec. 32-1n-17w in the Calabasas area of Los Angeles County. Present depth is 1476 feet.

Aliso Canyon Wildcat Pumps

Present yield of Union Oil's Mission-Adrian No. 2 on Sec. 34-3n-16w on wildcat ground in the Aliso Canyon area is 62 barrels a day on the pump. Total depth is 7580 feet.

Whitney Try Digs

In the Whitney Canyon area, Rothschild Oil Company's Phillips No. 2 on Sec. 7-3n-15w is making hole ahead below 1250 feet. This is the company's second test drilled in the area. The first test found showings of sufficient worth to call for further exploration.

Castaic Jct., Test Drilling

In the new Castaic Junction field, Humble Oil at last reports was drilling ahead at 5212 feet with its N. L. & F. No. 2 on Sec. 14-4n-17w.

Sylmar Try Digs

R. S. Lytle, Operator, D.B.L. Stetson-Sombrero No. 1 wildcat near Sylmar in San Fernando Valley continues to poke on down at a depth of 5712 feet.

Chino Hills Wildcat Deeper

On the Fuqua lease in the Chino Hills, Herbert Myers is drilling at 1311 feet with No. 1 test on Sec. 1-3s-8w, San Bernardino County. At Colton, John W. Brashears' Dana No. 1 explorer on Sec. 26-1s-5w is slugging away at 903 feet. Allied Oil & Gas Corporation's Chief No. 1 on Sec. 17-4n-1w at Hesperia is down 1766 feet and testing.

At Coast Exploration Co.'s well Sun No. 1 in the South Maricopa Field, left to right: Albert Sullivan, head well puller; Hubert Earls, floorman; Elmer Sullivan, floorman; Raleigh Goetes, floorman.

OLD DUTCH REPORTS

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Coastal and Northern District

Petaluma Test Rigs

Rigging is in progress for J. B. Brooks' Petaluma Comm. No. 5-4 on Sec. 30-5n-6w in the Petaluma region of Sonoma County.

Topa Topa Test Digs

The Zuni Oil Company and the Family Circle Oil Company have joined in drilling a venture on the Topa Topa Anticline in the Sespe area of Ventura County. Zuni recently took over the Carpenter lease offsetting the Union Oil's property in the area and has four drilling jobs programmed. The lease is in Sec. 28-5n-19w and the first well, Tar Creek No. 1, is making hole at 450 feet. Union Oil's Outlook No. 1-A in the same section is down 1440 feet.

Arroyo Grande Wildcat Working

The C. W. Colgrove Conditi No. 5 on Sec. 5-32s-13e in the Arroyo Grande area of San Luis Obispo County is drilling deeper at 1936 feet. Colgrove's Elberta No. 1-5 on the same section is boring at 9215 feet, after losing and recovering fish.

Ventura County Petroleum Combed

Bankline Oil's F. G. Dunshee No. 1 wildcat well in the Santa Ana Valley area, Sec. 19-4n-23w, Ventura County, is digging steadily deeper at 1345 feet. Lloyd Corporation's No. S-1 on Sec. 19-3n-22w in the Ventura Avenue area has reached 11,000 feet and is going on down. Los Nietos Company's Fraser No. 88-14w on Sec. 14-3n-23w at Ventura Avenue is down 7141 feet and fishing drill collar and bit. In the Simi area, William E. Newell and Edward J. Lattner are making headway at 1400 feet with No. 1 job on Sec. 14-2n-18w.

Atascadero Tests Quit

Two test wells in the Atascadero area of San Luis Obispo County have given up the search for new sources of oil supplies. Tillie Oil Company's Giorgi No. 1 on Sec. 6-29s-13e was abandoned at 465 feet. Santa Lucia Oil Company's Santa Lucia No. 1 on Sec. 1-29s-12e quit at 450 feet.

Moorpark Try Idle

Idle at 849 feet is the latest word from the V. A. Porter Smith No. 1 on Sec. 2-2n-19w in the Moorpark area of Ventura County.

Montalvo Well Digs

California Standard is busy with the drill at 5925 feet in its McGrath No. 33-11 in the Montalvo area, Sec. 30-2n-22w, Ventura County.

Bardsdale Well Active

Drilling is going forward at 7000 feet in the Cleveland Oil Company Elkins No. 5 on Sec. 7-3n-19w in the Bardsdale field. William Thornbury is drilling at 950 feet in Thornbury-Elkins No. 2 on Sec. 8-3n-19w. No. 1 is a location on Sec. 6.

Cat Canyon Well Yields

Standard Oil Company has finished Alexander No. 54 well in the Cat Canyon field, Sec. 21-9n-33w, for 250 barrels a day from 6480 feet. Los Flores No. 5-22 is a foundation on Sec. 22.

Lion Mtn. Try Drills

In the Lion Mountain Eocene area, Humble Oil & Refining Company's Theo. Hammond No. 3 test venture is making hole at 2250 feet on Sec. 12-4n-23w.

San Miguelito Well Testing

Continental Oil's Grubb No. 65-E on Sec. 25-3n-24w in the San Miguelito field is still running tests, with the hole bottomed at 16,727 feet. Grubb No. 78-2 on Sec. 24 is drilling at 7177 feet. Grubb No. 79-2 on Sec. 25 is in the completion stage at 9046 feet.

South Mtn. Well Digs

On Sec. 17-3n-20w in the South Mountain area, Shell Oil Company is drilling at 4516 feet with its Calco-Schieferle No. 5 on Sec. 17-3n-20w. Havenstrite Oil's Price No. 15 on Sec. 19-3n-20w has reached 1100 feet.

In the Bardsdale Field at Cleveland Oil Co.'s well Elkins No. 5, Tracy Harkness Drilling Co., contractor, left to right: C. L. Bunce, derrickman; C. B. Rodgers, racker; Tom Hotz, pusher, J. W. Rodgers, cathead; H. G. Bell, driller.

San Joaquin Valley

Cuyama Valley Adds New Field

Cuyama Valley is the scene of a third major oil field. This became a reality when Superior Oil Company successfully completed its Government No. 18-2 wildcat well for a substantial flow of clean oil. Location is on Sec. 2-11n-28w, three miles northwest of Russell Ranch production. Total depth is 6126 feet, with 8⅝-in. casing set at 5624 feet and 6⅝-in. pipe set at 6125 feet. Performance of the well appears to have opened a wide new area in the valley to development. One-half mile southwest of the Superior producer, Hancock Oil Company is drilling ahead below 2100 feet with its Hancock-Oceanic No. 65-10 venture on Sec. 10-11n-28w. Between 1695 to 1902 feet the well penetrated a thrust fault zone. The interval showed about 100 feet of oil sand stringers in shale. The last 10 feet appears to be of exceptional worth. A formation trial of the interval showed a light to faint blow of gas and no fluid to surface. Oil indications were picked up around 1000 feet higher than expected. Getting back to the new Superior producer, almost from grass roots the project has been in the no dope category. Oil company scouts at times have tried to gather what information they could by peering through telescopes from nearby hills. Other companies likely to benefit from the Superior discovery include Standard, Shell, Barnsdall, Bandini, Richfield and Hancock.

Edison Well In

Bottomed at a depth of 3842 feet, Franco Western Oil Company has finaled its Small No. 1 test well on Sec. 35-30s-29e in the Edison area for a flow of 89 barrels a day. Flow was regulated by a 26/64-in. bean. Mark Morris has started KP Farms-Russell No. 1 try on Sec. 27-30s-29e.

Ant Hill Try Staked

Arthur C. Fisher and J. H. Maurer have location staked for Linda No. 1 at Ant Hill on Sec. 11-29s-29e, Kern County.

Mount Poso Well Quits

George and Frank L. Ring have called it quits at 2743 feet with their Mon No. 1 test at South Mount Poso, Sec. 4-28s-28e. The Upper Vedder was topped at 2454 feet, and the lower at 2725 feet.

Kern River Test Drills

On Sec. 27-28s-28e at Kern River, Seaboard Oil Company is making hole not far below grass roots with Mitchel No. 1.

Rio Bravo Well Rigs

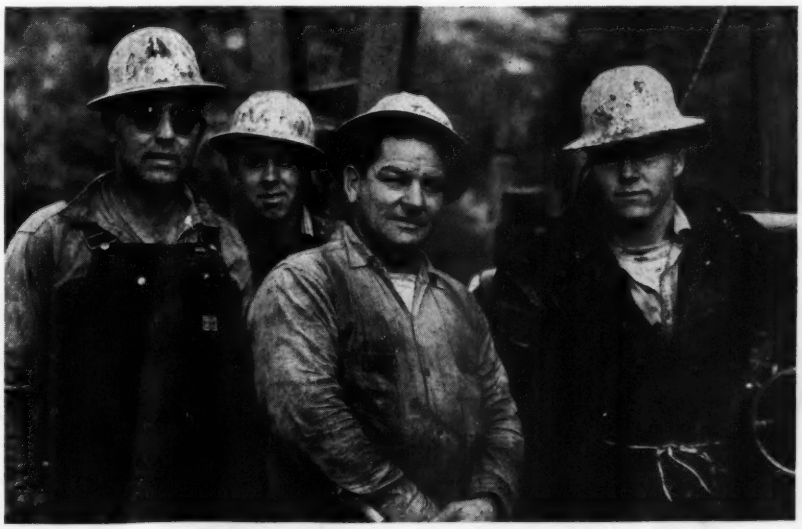
Stansbury, Inc., is rigging Wright No. 1 job on Sec. 3-29s-25e in the Rio Bravo field, Kern County. The derrick stands 100 ft. south and west from the northeast corner of the section.

Tejon Area Adds Interest

Standard of California under an agreement with Reserve Oil and Gas Company is planning to drill two test wells in Sec. 29-11n-18w in the Tejon area. Standard will drill the two wells at its sole cost and expense on parcels of land which are covered by a Standard-Reserve operating agreement. Reserve, incidentally, has entered into operating agreements with a number of companies involving bonuses payable to it in the amount of $142,000 since December 31, 1949. D. K. Associates' Corral No. 4-28 on Sec. 28-11n-18w in the Tunis Creek sector of the Tejon ranch has been completed at 1236 feet for 750 barrels daily through a 26/64-in. choke. It is drawing from 40 feet of coarse and lively oil sand. Fickle & Wattenbarger at last reports was drilling at an inconclusive depth with No. 2 well on Sec. 15-11n-18w on Tejon Flats. It is 136 feet south and 62 feet east from the No. 1 well, which is pumping 50 barrels a day from a bottom plugged at 482 feet, Mike K. Doumani is about to spud M. K. No. 1 on Sec. 14-11n-18w in Tejon Hills. O. M. Slosson has finaled Tejon No. 6 on Sec. 15-11n-18w at 1406 feet. Production is coming from a plugged depth of 527 feet. Representative gauge is not yet available.

Famosa Acres Due For Test

Presaging a possible exploration campaign, Lawrence Barker, Inc.,



Tracy Harkness Drilling Co., contractor for Cleveland Oil Co.'s well Elkins No. 5, in the Bardsdale Field, left to right: T. Calmese, derrickman; J. J. Lynn, cathead; J. L. Cothran, racker; R. C. Palmer, driller.

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Los Angeles, has leased some 3000 acres northeast of Famosa in Kern County. The ground takes in all or parts of Secs. 17, 20, 21, 28, 29 and 33-26s-26e. East of Famosa, Glenn McCarthy has quitclaimed approximately 1800 acres extending for about three miles. McCarthy last May abandoned his Bergman No. 1 on Sec. 2-27s-26e at an unproductive depth of 6700 feet.

Sheep Springs Wildcat Drills

On Sec. 20-29s-21e at Sheep Springs E. A. Bender of Bakersfield is drilling Anderson No. 5 below 3850 feet. The project is 1450 feet south and 1170 feet west from the northeast corner of the section.

Pleito Hills Explorer Digs

At Pleito Hills in Kern County, Continental Oil Company's KCL No. R-1 prospect job is making hole at 4511 feet on Sec. 36-11n-21w. The area under interrogation has the favorable regard of many geologists.

Reef Ridge Well Fishing

With top of drill pipe fish at 3992 feet, Barnsdall Oil Company continues its endeavor to remedy the mechanical troubles in its Lynch-Mauren No. 88-9 on Sec. 9-23s-17e at Reef Ridge, Kings County. The hole is down 8004 feet.

Cholame Test Digs

Keloil, Inc., Bakersfield, has spudded Jack No. 3 on Sec. 17-25s-16e in the Cholame area, San Luis Obispo County. Several prior tests in the general area reported oil and gas showings. However, they were not up to commercial standards.

Gould Hills Wildcat Digs

Los Nietos Company continues to drill and core ahead with its Richardson No. 77X-7 on Sec. 7-29s-21e in the Gould Hills, Kern County. The venture is destined to go deep for a conclusive trial.

Mojave Try Works

Caving sands have been cemented off and 10-in. casing run in the Paul Beamer Oswald No. 1 wildcat well in the Mojave area on Sec. 12-11n-12w, Kern County. Present depth of the well is 850 feet.

Lost Hill Test Drills

Having lost and successfully recovered drill pipe lost in its Williamson No. 33-11 deep test well in the Lost Hills area, General Petroleum resumed drilling at 10,678 feet and is going on down. Location is 800 feet north and 990 feet west from the center of Sec. 11-26s-20e.

Edison Outpost Starting Work

Golden Bear Oil Company has started its Weichelt No. 25-1, an outpost test on Sec. 26-30s-29e in the South Edison area. The company's Community No. 2 on Sec. 35-30s-29e is redrilling ahead, after milling window from 2835 to 2850 feet. Original bottom is 3015 feet.

Tulare Try In

After testing to a depth of 11,252 feet, Trico Oil & Gas Company has plugged back its Tulare Farms No. 55 on Sec. 27-24s-23e at Trico in Tulare County to 3258 feet and completed the well. Initial output was at the rate of 4,000,000 cubic feet of gas a day. Yield is from the "B" zone.

Hollister Wildcat Digs

Five miles northeast of the town of Hollister in San Benito County, Hollister Oil Development Company has started drilling its Dooling No. 1 on Sec. 12-12s-5e. Fred Sperber is company engineer. On the Ciervo Anticline, R. F. D. Company's No. 1 test on Sec. 33-16s-12e is drilling at 685 ft. Fairview Exploration's Fairview-Panoche No. 1 on Sec. 33-15s-11e is idle at 1258 feet.

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Here's a quick line-up of BJ Production Tools that give you the most efficient and smoothest performing derrick strings you can use for workover operations . . .

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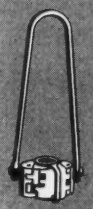
30, 50 and 75-ton capacities with either Single or Duplex body. Fully enclosed relief spring in "50" and "75" cushions the load. Built-in locking arm forms a safe, strong C-Link on single body type. All sizes swivel on enclosed heavy-duty ball bearings.

BJ ROD HOOKS

From light to heavy loads, the BJ "10", "15" and "20" are the ideal hoisting tools. Streamlined design makes for easy handling. Ball bearings are fully enclosed. Locking arm guides bail and closes *automatically* with weight of load, can only be opened manually. Safe, convenient.

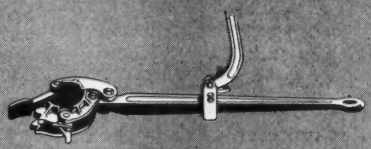


BJ TUBING ELEVATORS

In light and heavy-duty single bail types for every tubing job.

BJ ROD ELEVATORS

Reversible flame-hardened seating surface provides double the usual life. Made to fit all rod tapers.



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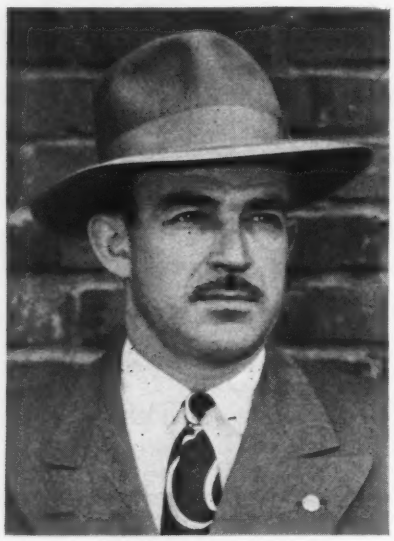
Personalities IN THE NEWS

BJ Moves Jack File

B. A. Hilliard, Jr., General Sales Manager of Byron Jackson Co. Oil Tool Division, announces the transfer of Jack File as sales representative. The new assignment for File, who will operate out of Wichita Falls, Texas, includes coverage of the Central Texas oilfields.



Jack File

File, who joined BJ in 1936, has been sales representative in the San Joaquin Valley with headquarters in Bakersfield, California.

Officers and directors of the San Joaquin Valley Oil Producers Association have been named for the ensuing year. Officers are E. E. Pyles, president; H. F. Owen and L. W. Saunders, vice presidents; and C. O. Premo, secretary. The board of directors is made up of Richard Fenton, L. L. Aubert, L. A. Cranson, J. M. Feldman, W. M. Keck, Jr., R. E. Gignoux, R. E. McCarthy, Ross McCollum, Harold R. Pauley, E. C. Reid, W. C. Whaley, and Joseph H. Spellacy.

John J. Synon, once in charge of public relations for the Western Oil and Gas Association, is handling the election campaign for Lieutenant Governor Goodwin J. Knight in the Bay area.

C. A. Davis is the new division manager for Richfield Oil at Bakersfield. He formerly was production engineer for the company at Los Angeles.

Lee Daniel of the California chapter, American Association of Oilwell Drilling Contractors, announces that the second quarterly meeting of the AAODC will be held April 28 at Corpus Christi, Texas. It was scheduled originally for April 7.

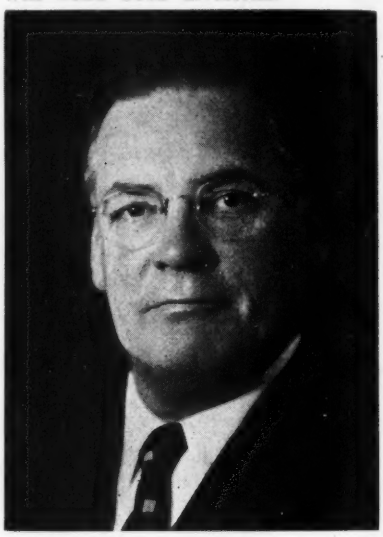
J. David Sterling has been elected president of Sunset Oil Company, Los Angeles. Head of Eagle Oil & Refining for several years, Sterling recently completed negotiations whereby Eagle purchased controlling interes of Sunset. J. P. Vanzetti, long associated with Sunset, has been made vice president and general manager.

First of a series of 10-week courses in petroleum refining has been opened for enrollment at Harbor Junior College, Wilmington. Instructor is Neil Blaine, chemical engineer with General Petroleum Corporation. Classes are conducted from 7 to 10 p.m. on Mondays.

Glenn M. Stearns of Tulsa has been elected chairman of the American Petroleum Institute, division of production, Mid-Continent district. Fred Neslage, Pampa, Texas, was named secretary-treasurer. The following vice chairmen were named: Texas Panhandle, Ralph O'Neill, southwestern Oklahoma, Harold Spiller, Seminole.

Covel Advances at Howard Supply

In a series of personnel changes, the Howard Supply Company announces the appointment of Earl Covel as Manager of Machinery Sales. Covel, a veteran oil well supply executive, has for many years been Manager of Oil Country Tubular Sales and also one of the original organizers and stockholders of Howard Supply Company. Under the new setup, Covel will head both divisions.



Earl Covel

W. J. (Bill) Mallin has been appointed Assistant Manager of Machinery Sales and C. F. (Cliff) Warner has also been appointed Assistant Manager of Machinery Sales.

R. F. (Doc) Schooling has been appointed Assistant Manager of Tubular Sales—with headquarters in the Los Angeles office.

Elbert L. Pauley, 72, former oil company executive and father of oilman Edwin W. Pauley, died of a heart attack while visiting another son, Harold R. Pauley at the lat-

ter's home, 165 South Hudson Avenue, Los Angeles. Long associated with oil development, Pauley was a vice president of Standard of Kentucky, resigning in 1919 to enter the automobile business in Pasadena. He organized the Pauley Oil Company in Los Angeles in 1932. After selling the company to Italo Petroleum Company, Pauley devoted most of his time to his own investments mostly in real estate. In recent years he made his home at the Huntington Hotel, Pasadena.

H. Boezinger, Pacific Coast district manager for Rockwell Manufacturing Company, announces the appointment of Lee Snodgrass as Pacific Coast supervisor of the gasoline and oil meter division. Snodgrass started in the valve division of Rockwell in 1941 and for the past few years has been specializing in oil and gasoline meter sales.

John T. O'Neil, millionaire oilman, died at the California Hospital in Los Angeles, 19 days after he was stricken by a heart attack. He was 51. O'Neil, son of the late capitalist, Patrick H. O'Neil, made his home in San Antonio, Texas, but had been spending the winter in Los Angeles. He started his oil career following discharge from service at the end of World War I. He and his brother, Louis B. O'Neil, an oilman in Missoula, Montana, organized the International Oil Corporation, but later sold it to California Petroleum Corporation, and the brothers became affiliated with the latter organization. Widening his activities, O'Neil developed oil holdings in Texas and was the developer of a new oil field in Wyoming. He also had extensive oil holdings in California.

Frank Jones, former secretary of the California chapter of the American Association of Oilwell Drilling Contractors, has entered the insurance business in Bakersfield. He is representing the Paul H. (Tex) Talbert firm. Talbert made his bow to the petroleum industry by joining Hughes Tool Company 27 years ago. In 1932 he established his present business, with main offices at Beverly Hills.

John Van Norden Of American Meter Company Passes Away

John Van Norden, fifty-five, of 26 Walbrooke Road, Scarsdale, N. Y., secretary and sales promotion manager of American Meter Company, Inc., died on Friday, March 17th at New York Hospital. He was a member of the executive board and the executive committee of the American Gas Association; treasurer and director of Gas Appliance Manufacturers Association, Inc.; a founder-member of the Society of Gas Operators and clerk of the Gild of Ancient Supplers.

John Van Norden

Mr. Van Norden, a native of the Netherlands, was brought to the United States as a child. He entered Yale University with the class of 1918, but became a member of the Army Intelligence Service before graduation and subsequently was an interpreter at 1st Army Headquarters in France. He was graduated from Hamilton College in 1920.

He had been a partner in the Hal-Nord Newspaper Feature Service and had been in the advertising department of the McGraw-Hill Publishing Company, Inc., before going to the American Meter Company in 1928. He was president of the Engineers Club of New York from 1946 to 1948 and a governor of it at the time of his death.

He was a member of the Liquefied Petroleum Gas Association, the New Jersey Gas Association, the Southern Gas Association, the Uptown Club, the Yale Club, Sigma Phi Fraternity, the Economic Club of New York, and St. Andrew's Golf Club, and was a former secretary of the Fox Meadow Tennis Club, of Scarsdale.

Dwyer Named PB and BJ Sales Representative

J. P. Magoffin, General Sales Manager of the Patterson-Ballagh Division, Byron Jackson Co., and B. A. Hilliard, Jr., General Sales Manager of the Oil Tool Division, recently announced George Dwyer as joint sales representative with headquarters at Casper, Wyoming.

Dwyer came to BJ in 1941 and joined the U. S. Army in 1942. Upon his discharge he rejoined BJ in the export department, transferring to sales work in 1948.

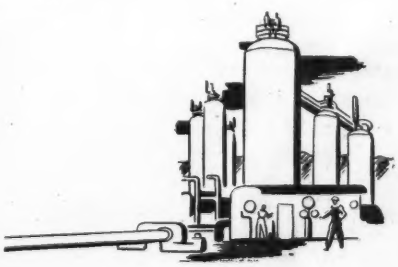
He will handle the sales and service of the complete line of PB and BJ products in the Rocky Mountain territory.

Manchester Boddy, newspaper publisher of Los Angeles, has entered the race for United States Senator from California following the announced retirement of Senator Sheridan Downey because of illness. Boddy, like Downey, a Democratic Party member, is expected to crossfile on the Republican ticket. Two other leading candidates have filed in both primaries. They are Representative Gahagan Douglas, Democrat, and Richard M. Nixon, Republican.

First guy: "My girl friend has been a chorus girl in New York for two years."

Second guy: "What shows?"

First guy: "Practically everything."



Beer Nose Test Digs

At Beer Nose in Kern County, Superior Oil Company is drilling at 5612 feet with its O.L.C. No. 6 on Sec. 28-26s-19e. The project is drilling for the joint account of Superior and Independent Exploration, whose combined holdings spread over 11,000 acres in the area. Superior is starting Edgar No. 43-25 on Sec. 24-30s-26e in the Gosford field.

Jasmine Try Starts

Electra Oil Company is preparing to drill its Quinn No. 1, a scheduled Vedder test well in the southwest quarter of the southeast quarter of Sec. 15-25s-27e in the Jasmine area of Kern County. It is an offset to wells owned by Pacific Oil and Gas Development Company. The Electra organization is headed by Calvin H. Conron, Jr., Bakersfield attorney and businessman.

Jacalitos Test Spuds

Ohio Oil Company has spudded and is drilling ahead with its Ohio-Gulf-H. C. Lillis No. 1 wildcat well on Sec. 28-21s-16e, between the Jacalitos field and Kettleman Hills. It is about one mile and a half from Continental Oil's duster. The early test went to a total depth of 10,080 feet in 1940. Nothing commercial was found. Standard of California, meanwhile, has completed its No. 378-27F test on Sec. 27-20s-16e for 220 barrels of 39.2 gravity oil a day through a 7/64-in. orifice. Gas yield was 143,000 cubic feet.

Huron Test Drills Ahead

In the Huron area of Fresno County, General Petroleum's B.L.C. No. 44-14 exploratory well on Sec. 14-20s-18e is drilling ahead below 1350 feet.

Long Beach Test Starts

Loma Oil Company's Webb No. 1 on Sec. 33-4s-12w at 15th street and Terminal avenue at Long Beach is in the initial operational stages. The company is headed by R. W. Jerman.

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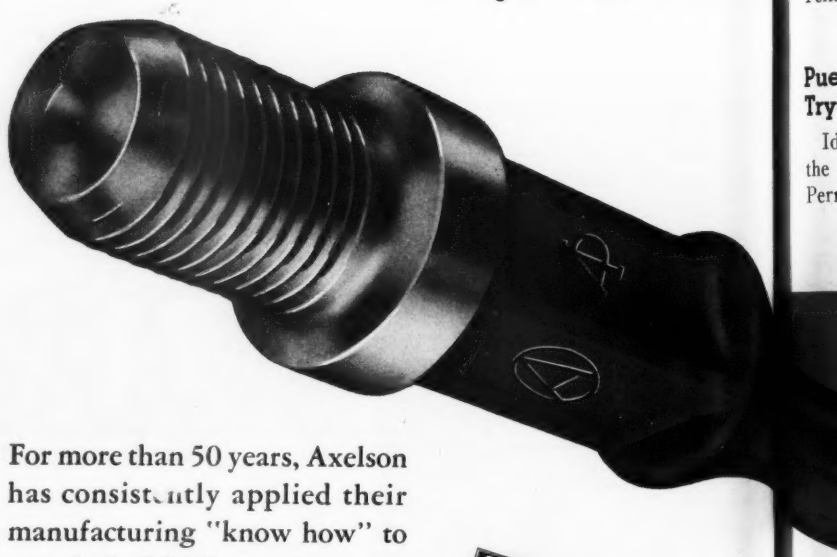

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Wilmington Test Works

Ready to deepen from 7021 feet is Airways Petroleum Corporation's Santa Susana No. 1 test at North Wilmington. Location is near the intersection of 223rd street and Wilmington avenue on Sec. 16-4s-13w.

Buena Park Wildcat Digs

Immediately south of Buena Park in Orange County, Humble Oil & Refining Company is drilling at 7810 feet with its Buena Park Unit No. 1 on Sec. 36-3s-11w. The well is about a mile north of a small producing well developed by the Texas Company.

Puente Try Idle

Idle temporarily at 2301 feet is the latest information from the Perma-Stone Pacific Company's Wilson-Carrillo No. 1 test on Sec. 24-2s-10w at Puente.

Sand Canyon Wildcat Digs

At Sand Canyon no great distance from Newhall, Fisher Lease, Inc. is digging at 2675 feet with Fisher No. 1 test on Sec. 2-3n-15w. General Petroleum's Bermite No. 1 on Sec. 25-4n-16w near Newhall is drilling and spot coring below 4500 feet.

Contra Costa Wildcat Digs

E. A. Bender of Bakersfield is making hole at 740 feet with Wallace No. 1 on Sec. 29-1n-3e near Brentwood in Contra Costa County. Location falls not far from an unsuccessful venture undertaken two years ago by Ohio Oil Company. This earlier wildcat drilled to an unproductive depth of 5456 feet. In the Martinez area, Ardley Petroleum Company's Almond No. 2 test on Sec. 31-2n-2w is digging below 1100 feet.

Goodyear Try Starts

George T. Cameron has commenced his Griffin No. 1 test on Sec. 16-3n-2w in the Goodyear area of Solano County.

Santa Barbara Wildcat Scene

Ohio Oil Company's Alisal Ranch No. 1 wildcat in the Solvang area on Sec. 5-5n-31w, Santa Barbara County, is drilling on down at 2532 feet. Lewis W. Welch's Lazy R. G. No. 3 exploratory well on Sec. 29-6n-29w in the San Marcos area is digging at 2961 feet. Yellowstone Oil Company's Hollister No. Y-1 test well on Sec. 3-4n-29w at Goleta has been spudded. Daniel Fisher, Operator, Hollister No. 2 on the section has ground graded.

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That is the reason why Axelson precisely controls physical characteristics throughout their manufacturing process to positively insure delivery to the well of sucker rod couplings that best suit specific pumping conditions.

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Rocky Mountain NEWS

Colorado—Idaho—Montana—New Mexico—Utah—Wyoming—Western Canada

North Dakota

The rolling plains of western North Dakota will be the scene of the most intensive search for oil structures in the history of the state this year. Long before the combines roll in to harvest the wheat crop this summer, seismograph crews will be crossing and their charges and collecting data which may indicate the presence of Devonian reefs which have proven so prolific in neighboring western Canada.

Many of these crews have continued working through the bitter cold of the past winter, when the temperature has dropped as low as criss-crossing the region, shooting minus 40 degrees.

This absorption plant at Texas Gulf Sulphur Co.'s new installation in the Worland field processes 30 million cubic feet natural gas per day. The gas is rated 32.5 percent hydrogen sulfide. Output of the plant will be around 300 long tons of sulfur daily. Chemical used in the absorption process is monoethynolamine (MEA).

The search centers on the Williston Basin, considered one of the largest undeveloped areas with oil possibilities in the country. About 22 percent of the total area of North Dakota has been taken up in the spectacular lease play, which also extends into the northeastern corner of Montana.

Companies with large holdings include Carter, Lion, Stanolind, Amerada, California, Sohio, Texas, Shell, Cities Service and Magnolia.

Clark Drilling Co. of Billings, Mont., recently completed negotiations with M. B. Rudman of Dallas for the drilling of 10 wildcat blocks in the Williston Basin. A stratigraphic test in northeast Burleigh county last spring showed 475 feet of Devonian which, while devoid of oil shows, showed a favorable section of the formation. Several stratigraphic tests in North Dakota were failures last year, but it was recalled that more than 100 dry holes were drilled in Alberta before the rich coral reef Devonian pay was discovered.

It is reported Phillips Petroleum and Carter (Standard of New Jersey subsidiary) will spend more than $1,000,000 for seismic and exploratory work on Carter's acreage in North Dakota. Another Jersey affiliate, Imperial Oil, discovered Devonian production in western Canada.

From Los Angeles, Union Oil Co., Hancock Oil Co., and Signal Oil & Gas Co., have teamed together to "shoot" a block of two million acres in the north central portion of the state, with headquarters at Devil's Lake. Union is the operator.

Most of the leases are fee land homesteaded in the early days and now in large wheat farms, and a great volume of acreage was picked

up at 25 to 50 cents an acre. No major oil company or enterprising independent could afford to overlook prospects of Devonian production extending southward from Canada, and once the leasing started, it developed into a snowball. Even South Dakota is coming in for a large volume of exploration and some wildcat drilling this year.

Western Canada

Alberta oil fields reached a new production high of 73,641 bbls. a day in mid-March, the Conservation board reported. Redwater field rose from 24,392 bbls. a day to 26,018 bbls., while Leduc dropped from 31,025 to 30,668 bbls. daily. Turner Valley also scored a gain of from 9,828 to 10,290 bbls. per day. There were two more producers added at Leduc to bring the total of operating wells to 359, while Redwater added eight to tally a total of 270 wells.

Other fields are still basing production on December figures.

A total of 63 wells was drilling in the province in mid-March, including 15 at Leduc, 14 at Redwater and 34 in other fields.

Interest centered on extension developments in two directions from the Redwater field. Pacific Calvan Simmons confirmed a two-mile extension on a quarter section for which the Pacific group paid $607,000. The Pacific group and Royalite Oil Co. are drilling in a three-mile area betwen the Simmons producer of Imperial and the main Redwater producing area. The trend runs south and east of the rich Redwater field.

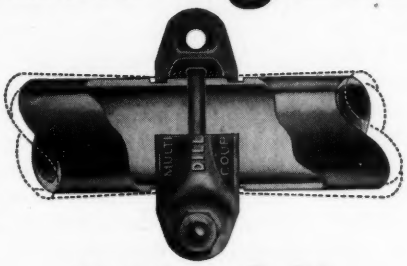
The successful extension (No. 2 well) had 157 feet of pay zone and produced at the rate of 1920 bbls. a day before going on steady flow. No. 1 well is nearing completion, and two new locations were made late in March.

Meanwhile Pacific Pete's Excelsior No. 2 well burst into flames when gas from lower Cretaceous levels was ignited from a shot during perforations of the casing. The blaze sent flames hundreds of feet into the air to illuminate the country side and attract farmers from miles around. Four members of the crew were severely burned as they dashed from the flaming well, and the derrick crumpled from the heat. The fire was extinguished when a charge of dynamite was set off to severe the gas flow.

Bay Petroleum recently purchased two oil wells and a 480-acre lease at the Whitemud field 12 miles southwest of Edmonton from Imperial. The field is three miles east of the Gilbert cretaceous field and six miles east of Leduc-Woodbend. The transaction gave Bay a major interest in the small lower Cretaceous sand field discovered a year ago by Imperial. Gravity of the oil runs 38, with the pay zone at 4080 feet.

Greater expansion of the interprovincial pipeline from Alberta to the Great Lakes was revealed with announcement of plans to build additional pumping stations on the 1180-mile line. This would increase capacity of the line from 95,000 to 135,000 bbls. per day, according to Dr. O. B. Hopkins, president of Interprovincial Pipe Line Co., Ltd., who made the announcement. Further expansion could be

back again..



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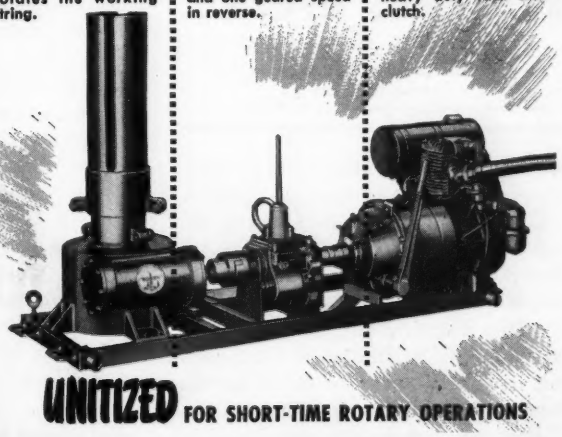

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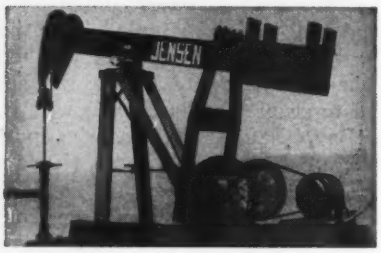

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provided by looping lines. The Canadian Board of Transport Commissioners recently approved a 16-inch line on the 30-mile link from Redwater to Edmonton, which will move 100,000 bbls. a day.

Cities Service Co. is conducting an intensive seismograph campaign on its 300,000-acre block in northern Alberta north of Lesser Slave Lake.

The firm has joined with British American in a joint exploration program extending from northwestern Alberta to the south central plains and covering holdings over the million acre mark. A seismograph crew is now shooting in the crown reservation east of Grand Prairie, northwest of Peace River and Hotchkiss.

New life has been injected into the Lloydminster field, veteran producer of heavy type crudes. Canadian National and Canadian Pacific railways are converting steam engines on the western lines from coal to bunker fuel as rapidly as possible. Officials of the Husky Oil & Refining Co. anticipate the field will soon rise to its full productive capacity of 170,000 to 200,000 bbls. a month and expect to operate the refinery at Lloyd at its full 7,500 bbl. per day capacity in the near future. Pro-rationing of oil at Lloydminster field was discontinued early in the year to meet the increased demand.

In the Golden Spike area, Imperial Oil Co. abandoned its No. 6 well at 6455 feet after failing to find the D3 zone. It was drilled about three-fourths mile southwest of the discovery well in the field. The venture also found the D2 zone dry, although this formation produced at No. 5 well.

Personal Mention

Frank Murray, landman for the California Co., has been transferred from Casper to Denver to take charge of leasing activities for the firm's new Plains States district, which includes North and South Dakota, Nebraska and the southeastern corner of Wyoming.

Jess O. O'Neal, formerly district superintendent in Continental Oil Co.'s production department in the Illinois Basin district at Griffin, Ill., has been promoted and transferred to Casper as division superintendent of the Montana-Wyoming division. He succeeds Ira D. Pierson, who recently retired. O'Neal joined Continental as a roustabout in the Big Muddy field in Wyoming in 1927.

Petroleum Information, Inc., well-known reporting service for the Rocky Mountain region, is building an office building in Casper to provide additional space for its map and well-logging services. George Goodin is manager of the Casper office, while his brother, Maury, heads the firm in Denver. Another brother, Bill Goodin, works out of the Denver office.

J. F. Hornbeck, formerly lease broker in Salt Lake City, has moved to a new office in Cheyenne.

George Kasserman recently moved from Shell Oil Co.'s Centralia, Ill., office to Denver to manage the district land office.

Rocky Mountains General

Leading figures in the Rocky Mountain oil industry converged on Casper April 13-14 for the spring meeting of the Rocky Mountain district, API division of production. Keynote speaker was R. L. Minckler of Los Angeles, president of the General Petroleum Corp. His subject was "Oil and the Public."

Production highlights in the region were discussed in several papers read at the session. J. L. Fusselman of Trigood Oil Co., Casper, and L. L. McDonald of Pure Oil Co., Chicago, gave a paper on field production problems in the Worland field of northern Wyoming, where hydrogen sulfide gas is now being processed for commercial sulfur.

E. Y. Long of Continental Oil Co., Lance Creek, Wyo., described developments in the Sussex area of southeastern Johnson county, which is currently the most rapidly expanding oil field in the Rockies.

Discovery and development of crude oil reserves in Cheyenne county, Nebraska, were traced by W. L. Hershelman of the Ohio Oil Co., which made the first commercial oil finds in western Nebraska.

Other interesting papers scheduled on the program included:

"Prime Movers in Modern Drilling Practices," by J. E. Brantly, president, Drilling and Exploration Co., Inc., Dallas, Texas.

"API Vocational Training—Rocky Mountain District," by V. E. Staley, Stanolind Oil & Gas Co., Casper.

"Corrosion Mitigation in Sour Crudes," by D. A. Shock and J. D.

Sudbury, Continental Oil Co., Ponca City, Okla.

"Applying New Techniques Through Job Design," by John Daxon and Roger Filson, Phillips Petroleum Co., Oklahoma City, Okla.

Prior to the opening session Thursday, meetings of the production practice and drilling practice committees were held. Among those presiding at convention sessions were Paul L. Kartzke, Shell, Casper; Zach K. Brinkerhoff, Jr., Brinkerhoff Drilling Co., and M. R. McArthur, Husky Refining Co., Cody, Wyo.

Wyoming oil production was close to an all-time high in mid-March as the result of the stimulus given black oil production by the coal strike and its effect on the market for fuel oils. The API reported production of crude oil and condensate was 163,500 barrels per day for the week ending March 18 in Wyoming. This was a gain of 9,400 barrels per day over the previous week and compared with daily production of 140,950 bbls. per day a year ago.

However, Rocky Mountain operators were not optimistic over the long range outlook for heavy, black oils. Coal production is regaining lost ground rapidly and new natural gas pipelines will result in more consumers switching to gas, rather than fuel oil space heaters.

Colorado-Nebraska

British-American Oil Producing Corp. fanned fresh interest in the Julesburg Basin with a gas-and-condensate discovery in the Armstrong area north of Sterling, Colo. A strong oil showing, with water, was reported at the No. 1 Segelke near Peetz, Colo. Donald E. Edstrom, geologist for the firm, said the drillstem recovery was 420 feet of 40 gravity green oil and 180 feet of slightly brackish water, which indicated possible production of 100 barrels per day.

The venture tested natural gas at the rate of 4,300,000 cubic feet per day, with high condensate. Production came from the Muddy sand topped at 5382 feet and the firm is now drilling ahead to the Dakota.

Company officials said the venture was drilled on one of three seismic highs in the British-American block lying about halfway between Sterling, Colo., and Sidney, Nebr.

Meanwhile Ohio Oil Co. made a new oil discovery at the No. 1 McLernon in the Sunol area near Sidney, two miles east of the firm's No. 1 Cruise which gauged 54 million cubic feet gas per day in the Huntsman area. The McLernon flowed oil from a total depth of 4430 feet in the Dakota.

Rapid development drilling is indicated in the Julesburg Basin of western Nebraska, northeastern Colorado and southeastern Wyoming this year, with geologists reporting approximately 24 seismic highs to be tested following extensive geophysical work which continued during the recent winter months.

Sinclair Oil & Gas Co. has acquired spreads through several drilling blocks, putting up "dry hole" money for a number of independents to drill Dakota tests. Among these are B. B. Carter et al, who is scheduled to drill a 5,000 foot test in section 20-19n-49w, Morrill county, and C. D. Neff, for a similar test in 8-17n-50w. Sinclair has taken acreage in return for financial backing of the ventures.

Water shut-off troubles have plagued the J. M. Huber wildcat at Fort Morgan, Colo., another interesting Julesburg Basin test. The firm found saturation in the Muddy sand but encountered a volume of fresh water in the Dakota at 5541 feet. The operator is attempting to plug off the water and continue tests in the Muddy sand.

In the Woodrow area, Washington county, Colorado, Adams Drilling Co. and Woodrow Oil Co. were reported around 5400 feet after drilling thru Muddy and Dakota sands. These were reported dry, but there has been no confirmation from the operators.

Oil firms are watching with interest a suit filed recently by Ohio Oil Co. in the U. S. district court, contending that leases acquired by Suhr, Fiedler and Locke Drilling Co. of Holyoke, Colo., were based on information which "leaked" from seismic operations of Ohio's General Geophysical Co. party. Ohio requested a court order directing the Holyoke operator to transfer the leases to plaintiff. Suhr, Fiedler and Locke acquired blocks centering in townships 3n and 4n, Ranges 46w and 47w, Yuma county, which are surrounded by Ohio leases.

Ohio has completed its No. 1 Hopkins in the Gurley field near Sidney for a gauge of 170 barrels per day on the pump, with production from third bench of the Dakota sand. The firm has commenced

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drilling the No. 2 Hopkins, an offset.

In the Bridgeport, Nebr., area of Morrill county, B. B. Carter made location for a Dakota test in section 20-19n-49w.

Leasing activities are continuing intensively throughout the Julesburg Basin and Ohio has obtained a franchise to serve the town of Sidney with natural gas. Development of new reserves in western Nebraska is one of the factors behind the movement to build a new trunk pipeline from Wyoming to St. Louis to provide better marketing facilities in the future.

Wyoming

Despite poor showings in wells on the east side of the field, leasing development is continuing in the new Glenrock area of central Wyoming. Frank J. Snyder and associates of Denver have acquired holdings in section 36-34n-75w in the East Glenrock area and are committed to drill a test this year.

Phillips Petroleum Co. was testing the Dakota sand in the first town lot well in Glenrock early in April, with the hole bottomed at 7040 feet. Some shows were logged in the sand, and earlier the operator tested gas with distillate from the First Wall Creek sand and gas and water cut mud from Second Wall Creek. The Muddy sand, productive in the discovery well a stone's throw north of Glenrock, apparently was missing.

Meanwhile Steelco Drilling Co. made a sustained production test of its discovery well, the No. 1 McDonald, which flowed at the rate of 600 barrels per day, 39.8 gravity green oil, into storage. Production is from the Muddy sand, which occurs here in a stratigraphic trap. Although the firm has erected loading facilities along the railroad tracks in Glenrock, no oil has been marketed as yet. The Stanolind pipe line to the east, which flows only a few feet from the well, is unable to accommodate any Glenrock production at this time.

Other interesting tests in the Glenrock area are drilling on the west side of the Continental Oil Co. refinery and on the North Western railroad right-of-way east of the refinery. Steelco drilled the first failure in the No. 1 Moore, a step-out one and one-half miles east of the discovery. It found no muddy sand, and no shows in the Dakota.

Rapid development of the Sussex-Meadow Creek fields in southeastern Johnson county continued to hold the spotlight in Wyoming. Delhi and its associate, the Mimi Corp., both of Dallas, continue to bring in producers from the Sussex sand in North Meadow Creek with regularity. These follow the pattern of the discovery well, which flowed an estimated 400 barrels daily of 40.5 gravity green oil thru quarter-inch choke.

Delhi has made a practice of drilling each well into the Shannon, running casing to total depth, and then perforating for completion opposite the Sussex sand. Saturation has been found in the Shannon in every case. Formation tops in the discovery are listed as Sussex 3923-3983, Shannon 4439-4463 feet.

Continental Oil Co. has completed its 14th well in the Sussex unit north of Meadow Creek, and has well locations up to No. 20 staked.

Meanwhile, in the Meadow Creek unit four miles south of Sussex, Continental is completing its discovery well in the Lakota sand at a total depth of 7555 feet. The well swabbed 140 bbls. oil in 11 hours through casing perforations opposite the sand. Oil was also recovered on drillstem tests in the Shannon sand.

Since the area came into prominence following Continental's discovery at Sussex early in 1948, the Sussex-North Meadow Creek-Meadow Creek pools are believed to have a present potential of around 5,000 bbls. oil per day, or about half that of nearby Salt Creek. Conoco's wells and others are cut down to the field allowable of 200 bbls. per well per day, which is a pipeline proration plan. The market even for light green oils in Wyoming is becoming somewhat restricted.

No notable new strikes were reported in Wyoming recently, but several important ventures were nearing possible pay horizons.

Sinclair Oil & Gas was still in Phosphoria at the Happy Springs wildcat, below 9,830 feet in Fremont county, anticipating the Tensleep sand very shortly. The wildcat is west of Sinclair's Crooks Gap field where production is from Muddy and Lakota sands. Earlier the Happy Springs well found oil in Muddy and Sundance sands.

Atlantic is rigging up rotary at North Alkali Butte in Fremont county, about eight miles from its Riverton Dome field. The firm is completing its second well in the Riverton Dome field after testing natural gas in the Fifth Frontier sand at the rate of nearly 2,000,000 cubic feet per day. It will be completed as an oil producer in the Tensleep sand.

Pure Oil Co. has set a third whipstock in the troublesome Badwater wildcat in northwestern Natrona county, which has been plagued with fishing troubles at total depth of 14,154 feet for over two months. The well is scheduled as a Frontier test, possibly around 16,000 feet.

Bay Petroleum's interesting test at Wallace Creek, south of Badwater, found slight shows in the Shannon sand below 6925 feet and is drilling ahead to the Lakota around 10,500 feet.

The Hamm Brewing-Trigood venture at McCullough Peak in Park county topped Cody shale at 10,020 feet, making possible first definite correlation of this rank wildcat. Frontier sand, the goal, is anticipated just short of 12,000 feet. Due to the large amount of closure reported for the structure, the well is being watched closely as one of the most important wildcats in the Big Horn Basin this year.

At Lightning Creek in Niobrara county, J. M. Huber Co. has plugged the No. 1 Joss after failing to obtain commercial pay from the upper basal Sundance formation. The venture is only a mile south of Atlantic's Sundance discovery which was completed for 300 bbls. per day.

Leigh M. Battson, is back at his Los Angeles office, after a week in the sun at the fashionable Desert Inn, Palm Springs.

Golden Anniversary

(Continued from Page 21)

cated Production Control Building was erected, providing an excellent installation for plant activities and a tie-in with the new Stores and Receiving Building.

In order to keep abreast of the changing requirements for "smog abatement", new equipment to control the exhaust fumes from the Power House Boiler Furnace was installed. Equipment is now in the process of being installed for controlling the exhaust fumes from the Electric Furnaces in the Steel Foundry.

The foregoing is all a part of the $22,250,000.00 modernization program to streamline the six plants of The National Supply Company. It is this type of progress which has made The National Supply Company today the largest manufacturer and distributor of Oil Field Equipment and Supplies in the world. The company not only sells the products of its own manufacture but those of other producers as well. It is a distributor for thousands of items made by other companies. Progress has not stopped here with these recent facility improvements, as other plant modernization changes have already started—with still others in process of development.

Pacific Western Scores In Texas

Pacific Western and Barnsdall Oil have evidently chalked up an important development on a 6000 acre play in southeast Borden County, Texas. Their well, 16 miles to the south of the town of Gail, flowed at the rate of 100 barrels of 45.9 gravity oil an hour during a 4 hour drill stem test. Gas showed to surface in three minutes and oil in eight minutes. A 5/8 inch bottom hole bean and a one inch top bean were used, flow pressure being 580 pounds and gas oil ratio 1060 to one. Total depth is 7452 feet, and casing is set at 7425 feet. Actual driller of the well is Barnsdall Oil which is sharing 50/50 with Pacific Western in the play. It is expected that the project will be completed at the present depth. It appears that Bankline Oil and British American Oil Producing have also scored a new field discovery in Texas, this time in Eastland County. The well on open hole test of about 3500 feet of oil sand off present bottom of 3289 feet showed clean 40 gravity oil, a small quantity of drilling mud and no water. Gas output was 48,000 cubic feet daily. In the Lake zone, the sand was tight and will probably give between 50 and 100 barrels a day when "shot". Drilling will be continued on down for the Mississippian Reef at 3500 feet and the Ellenburger at 4200 feet. Both of these zones are more prolific than the Lake sand in other producing sections of Texas. The combination holds 1300 acres, interest in which is divided equally.

Technical Bulletins Available On Corrosion-Resistant Alloy Valves

The first all-stainless, completely jacketed valve, manufactured by Alloy Steel Products Company, is fully described in a new bulletin being distributed by The Republic Supply Company of California. Also available in technical bulletin form is information covering numerous corrosion-resistant alloys, adaptable in the selection of valves and fittings for corrosive solutions, together with full data relative to the handling of sulphuric acid at various concentrations and temperatures. The valve application data section will prove a useful guide in selecting proper alloys for specific applications. Copies of new bulletins and complete catalog may be had by writing The Republic Supply Company of California, Box 2137, Terminal Annex, Los Angeles 54, California.

All-Flex Swivel Coupling Catalog Available

Gil-Lair Products, Inc., 81 Masonic Court, Pasadena, California, announces its new Catalog No. 50 which describes the design features, gives complete specifications, working pressures and prices of its complete line of high-pressure and low-pressure ALL-FLEX Ball Bearing Swivel Pipe Couplings.

There are eight basic styles in sizes from 3/8 to 12 inches and for pressures from vacuum to 12000 psi. In addition Catalog 50 illustrates and describes the company's other products which include: steel rotary hose, steel cementing hose, mud mixing guns, marine and barge hose and steel circulating heads.

Timber Canyon Well On Pump

Completed on the pump at 2530 feet, representative yield is not yet available on Richfield Oil's E. P. Clark No. 9 on Sec. 13-4n-21w in the Timber Canyon field. Total bottom is 2530 feet and plugged depth is 2278 feet.

In the West Edison Field, The Texas Company's roustabout gang at Well-Wilke No. 2, left to right: A. L. Morrison, H. C. Penny, C. E. Imhoof, W. E. Gann, W. T. Rieff.

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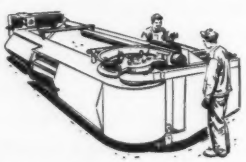

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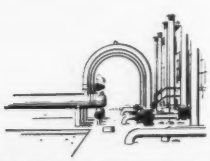

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Imperial County Leasing Center

Newest scene of leasing activity in Southern California is the southwest portion of Imperial Valley in Imperial County in which participants include both major and small oil organizations. Texas Company is understood represented by substantial acreage in the Yuba Buttes area in Township 16s, Range 11e, some 15 miles west of El Centro. The area has already felt the test drill. A venture drilled as far back as 1901 was credited with showings of oil and gas. Leasing also is brisk in the Superstitious Mountain Anticline area in Township 14s, Range 12e, roughly 12 miles northwest of the town of Imperial. One large operator is reported to have reached a point with a seismograph survey where work is being narrowed down to the most favorable sector for the early drilling of an exploratory well.

Castaic Area Leasing Scene

Bolsa Chica Oil Corporation has leased some 3000 acres of prospective oil ground in the Ridge Basin area, northeast of Castaic. Bolsa's land is in a new area on the east side of the San Gabriel fault. Interest in production possibilities there appears to have resulted from the discovery of 40 gravity oil scored recently by the T. & M. Exploration Company around 2000 feet and a study made of the area by Bolsa's geological department. Union Oil Company also has taken leases in the area. It has 2700 acres in Townships 5n, Ranges 16w and 17w. Rothschild Oil also holds property in the area.

Oil Industry Carries 20% of Nation's Payroll

The oil industry in the United States employs directly 1,880,000 men and women, but for each oil worker there are additional jobs for 4.2 workers in industries related to petroleum. The combined annual payroll of those who work in petroleum and related industries is $24,471,586,000, or 20.3 percent of the total annual payroll of all of the workers in the U. S.

Kern County OIL NEWS

BROMIDES ordinarily "taboo" in Kern County are showing up here and there. Maybe Kern is growing old . . . but probably because old gags are new every eight years is the reason. Anyway "history is repeating itself", say many new and old oilwigs this month in Kern.

REFERENCE is made to "WILL ROGERS" who back in the 20's hit the casing on the head when he complained of imports.

INCIDENTALLY Kernwigs returning from Venezuela report that the country's one industry economy is not "oilright" . . . U. S. Dollars are needed down there . . . and purchases from USA are not commensurate with the exports.

MUMBLING IN THE HELMETS grows restive at this press time.

PETROLEUM PIONEERS will be surprised to hear of the passing of GEORGE HAY a pioneer oilman and real estate broker. He was 80 years of age and quite active. Last month a week before his passing he out played one of his cronies at golf. Hay was a farmer, stockman at Rosedale and in South Fork Valley Kern River. Once mayor of Bakersfield. Served as deputy tax collector, assessor, and treasurer. Organized the Bakersfield Abstract Company in 1924. The Hay Building is named after him. At time of his demise he was active in the oil industry, serving on the school board and less active only in politics once his avocation.

BIGGEST NEWS in oil last month came from President E. E. Pyle of San Joaquin Valley Oil Producers Association and it was not about oil so much as oil taxes. "Full page ads will be run in Kern County papers protesting Kern taxes on oil values," he reported.

"CALIFORNIAN" reports that fifty years ago the Sumner Water Works discarded coal for oil from Kern River Field. Twenty years ago the Pacific Oil Company was planning taking over the Westside Gas Company.

OILMEN will rejoice somewhat to know that CHARLEY HOWELL, KEN WILLIS and CLARENCE RAE from the Sheriff's office recovered about a $1000.00 worth of stolen oil tubing. One of the plagues of the industry is this type of inconvenience and loss to the producer. Ask former Mayor Siemon he ought to know.

ART WALLACE last month was hospitalized. Many an oilman remembers him. Andy Mellon then secretary of the treasurer sent Wallace and another eastern explorer to prove up or and extend Mountain View field. Millions of dollars were "rotaried' 'around the oil properties of Union Avenue plunge. It was an oil plunge too . . . even El Adobe was drilled.

GODETIA . . . "farewell to spring" . . . the name of a wildflower . . . This is our "springsong" "signing off tune" for the "DHAMMAPADA". The Dhammapada is the natural wildflower display or festival that brings at least a $1,000,000.00 of new cash into Kern every spring. It helps the gas pumps go. Godetias are appearing which means farewell . . . farewell except up in the higher reaches or in some cases on the desert. So "godetia" for now! . . . Meanwhile Kern wants to set aside the only tourist lure left out by Edison. Di Giorgio owns that 40 acre hillside. Once he gave that much of valley land to

SAN JOAQUIN GEOLOGICAL SOCIETY in a mapwig-draftwig dessertation. Geologist PAUL McGOVNEY of Honolulu district; RAY SIMMONS, geological draftsman and HAL HANSON of Western Gulf Oil; H. F. PETERSON, geological draftsman for SHELL OIL and speaker; RALPH BRODEK, Secretary Treasurer of SJGS from Western Gulf, and BOB KELLY, district geologist for Continental. Topic under discussion "Reproduction Methods and Their Application." The meeting was held at the El Tejon in Bakersfield.

HOPKINS, CROSSAN, HOPKINS & ERWIN representing oil production, Kern County bank, Taxes and Tax Research respectively. All were members and guests of the San Joaquin Oil Producers Association at the Tower Room of Bakersfield Inn last month.

Kern. Add to this poppy-seeding by oil companies the stretch from Grapevine to Greenfield. This will return gallons of dollars to the coffers of the expenditures to seed and nearby water.

THREE FRENCHMEN, berets, and all were casing the county for opportunities with Marshall Currency. One passing remark indicated all funds not going to buy oil from Arabia . . . praise Allah!

ROSS MC COLLUM of National Oil was up from Los Angeles to attend the SJVOPA annual meeting. His beaming countenance was not indicative of tax conscienceness, of which he is. GENE FELDMAN who sat at the same table didn't disturb . . . him . . . even if he did think the county should buy some oil droplets to settle the dust. La's Darby had nothing to say either . . . it wasn't the time or place . . . but GENE REID who knows what percentage of taxes goes for everything had his mind on the year 1950-51.

"REPRODUCTION METHODS AND THEIR APPLICATION" was quite a topic thriller, for discussion at last month's meeting of the San Joaquin Geological Society. But to really enjoy it you had to be a map maker geologist. The mapwigs listened to H. F. PETERSON geological draftsman for Shell Oil Company as he gave the dessertation an impetus . . . by his paper.

AMERICAN PETROLEUM INSTITUTE chapter here plans on an annual barbeque. "This barbecue we knew would number thirty-two" . . . but we attended thirty three a couple of years ago including one in the Garden of the Gods where the boys from Boston came, in their dinner tuxedoes. At the time we said this we didn't know that over

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half Kern barbecues are flavored with oil. Just for this Bill Bailey and Joe Shea they would compliment us to attend their's. By the by . . . over two hundred persons attended the regular meeting last month and saw the big game pictures screened by Harold R. Hamilton of Hamilton and Sherman. Said Harold, "first we go to Africa . . . where we shoot them dead . . . then we go to Bakersfield and show them where we shoot them alive." DOUG JONES, Axelson, BILL GOERTZ, also; SHERM SHERMAN of H. & S.; ARMY ARBRUSTER, Shell; JOE SHEA of Richfield, and API's chapter chairman; HAM HAMILTON, CURLEY STANSBURY, Stansbury Inc., and BILL BAILEY, of DOG, & API Secretary, were at the head table at the executive planning section dinner . . . Redroom at the INN.

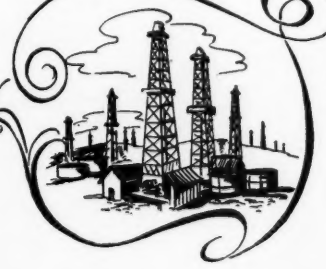
F. R. KALLOCH well known civic leader whose oil stake was recently "looking-up," over at Devil's Den area, says the County Board of Supervisors need some defense on the tax structure talk by others. A member of tax conservation groups himself, Kalloch thinks there are two sides. One side told and the other not related as yet. Kalloch wants to know where he can suggest cuts in the budget. "Hard to do any comparing with other counties since Kern rates first in oil, mining, cotton, grapes, airports, oilwells, greatest service to the greatest number in unincorporated areas usually taken care of by cities."

CELIC T. JONES was mentioning the other day that it was difficult to measure the life of minerals. Their depletion hurts the economy built up by them . . . difficult to also allow for depreciation to the people. Heavy wells are less valuable not by depletion but by loss of market, so there is a problem of not having a cushion for development again.

WHAT IS IT THAT everyone wants but no one will accept it . . . This oil helmet tickler is worth a lot more than $64.00 . . . Individually nearly everyone is formulating his own plan. Well, congress has decided the answer. "Some kind of Federal Control of Oil". Almost every industry has it now. It is a ticklish question . . . a red badge of "torreroism" at a bull fight . . . and it will start as lively an argument . . . Some oilwigs want to speak of it under production . . . others in Kern want to leave out price talk. Sounds easy . . . Says one oilwig," labor and farmers have a floor . . . let the small producer have his 2000 b/m . . . support it . . . but not after that point. Let the other oilwigs be penalized for over production in proportionate share."

ACCORDING TO OUR DISPATCHER, could be BOB CONRAD at "WOT" who said that quite a number of new oilfaces are coming into the county. We checked with FAYE the CROUSE over PBX and found a few names as newcomers.

PETE E. RILEY from Long Beach went working for Bakersfield facility of Brown Drilling company. And to UNION OIL went Frank H. Holley from Santa



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Maria. Then Carl R. Childs from Salt Lake City, Utah checked in at Standard Oil to be associate engineer. To Richfield Oil went EDGAR P. VALBY from Long Beach. From Oklahoma has come Wesley Leon Shultz to hail the Golden Bear Refinery. Since Elmer Houchin is in the oil news, we now suspect that PETER C. PAINTER who is a new arrival from Livingston is out in the oilfields as a part of the personnel in oil. Douglas Refinery has employed WILLIAM SATHER from Santa Barbara, and that winds up our report except we did want to tell you that CALVIN COOK our neighbor in Los Angeles' Lancaster, came to help the Pacific Pipeline and Engineering do some work in Kern County. "These people love to live in our home county". . . . Report.

WE WERE OVER in the oil country west of No. 33 highway and the prospects for grass rehabilitation are as good as they are for oil . . . both meaning much.

SUGGESTED THAT many oilwigs who like public speaking, fraternal affairs . . . social talking . . . world events and seek other information . . . join the COMMONWEALTH CLUB at San Francisco. Sixteen did it . . . just got a letter of citation from the CC thanking us. Well, well.

ELMER POE of Pyramid Hills was once telling us about Mr. A. F. HILDING of the Pacific Oil and Gas Development Corporation. Wished we had taken him seriously, because when Hilding called the other day we found out where we might have gone with that certain suggestion by Elmer about POG shares.

WAS IT WALTER SAUL who told us that the savings by state highway engineers on public bids amounted enough . . . to build that new strip of US 99 from Fomosa to Delano which is being grade staked now? ? ? Anyway EARL SCOTT California Highway Engineer at Fresno VI District is happy over the new project and about a couple extra millions available for good old Kern.

MET CHARLES E. DUGGAN of Shell Oil Sprays at the JONATHAN the other night and he is heading for Kern from Pomona to contact, insecticides, fungicides, weed killers and what have you. We have been called so many names like this, we at first thought we were at last overtaken.

MARTIN ORLOFF et ux now living in their new home in Highland Manor were hosting two celebrities from Iran who are Stanfording in courses necessary to develop agriculture on a large scale. Power machinery and its essential uses in oil and farm needs were of especial interest.

WHAT'S BECOME OF John Kelly of Atlas Production. Also AL SANDERS San Joaquin Exploration Company . . . Floyd Hall of Douglas . . . Harry Huff. LeMoyne Porter . . . Greeley Scott . . Fritz Miller oil cartoonist, and Jim Appell. Keeping Track of 'em . . . is a hard job . . . including Bill Runbeck & J. H. DAVISON.

TED EDMONDS told us that even if we did mention the fact that most of his customers on appointment at the Padre Barber shop were oil men, he still would not give us a free hair cut . . . What's more those who mention this write up or cut it out will not get even a close shave.

GENERAL HUDELSON who was so good about coming up to Kern County to talk on "Oil & National Defense" handed us a list of GeePeers who retired after serving 180 years as General Petroleum Corporation Employees. The General talked about the National Guard and only mentioned his topic . . . . he believes that unless we have a great National Guard nothing else much matters. Kern appreciates and is grateful.

MILTON BECKER, OLLIE FORGIE, GEORGE GRAUPMANN, WILLIAM JEWETT, JOHN RANKIN, and LEVI WARNOCK were retired from the General Petroleum with the 180 years service which Hudelson mentioned.

J. R. MAHAN, and W. R. RYBURN were our guests the other evening. They are National Supply Company men from Toledo. With them were C. T. Reichert and Forrest Young from Torrance offices attending the SJVOPA at a finn a throw.

NICE TO SEE Joe Jensen of TWA and LA C of C minded. George Suman was around too, and he is on the city and county oil committees up here civically.

SPEAKING OF ARTHUR WALLACE . . . Hoyt Gale was with him and the two were interested in Taft Well Drilling Company later after and during Union Ave. "plunging" for Mt. View sands. Incidentally Hughey McCay Mt. View fame finished setting as you know over a mile of casing in a new Hogan Petroleum well. Reminds us . . . HUGH MC CAY

ELMER HOUCHIN well known oilwig, sportsman and agriculturalist tries out a candid pose with PAUL J. HOWARD, independent geologist, petroleum engineer and consultant. Paul is not thinking about taxes now.

has something to do with Valley Vacuum Truck Service. He has been putting out matches like a candidate in the Second Supervisorial district (understand six running for office). Anyhow, Hughie says they put out a fire up around Oildale before the firemen got there . . . or something.

H. V. COWGER DOESN'T work for Shell anymore . . . just that one night at the API meeting when some smartwig oilwag told us that on purpose . . . So we want to see "CV" reimbursed since he does still work with Standard. Somebody fined him ten bucks and we have been threatened with damages unheard of. It pays to have friends, we can see that. " 'spose they'r N/G if ya can't use 'em."

LESLIE ROBINSON's passing was a distinct shock to all the oilfolks of Kern. Lee was a pioneer and had a big following with the first insurance in Kern. His family will carry on in the business and be as well liked we know.

MR. J. F. KOSANKE who has about 16 wells on his lease thinks purchases of oil for France with tax funds lessens his ability to pay such taxes by his recent shut in production. Wishes to be quoted and wants to protest.

HARRY MC DONALD of the Obispo Oil Company was over from San Luis the last fortnight ago and he seems like a gentle, amiable person with a lot of knowhow thinking. He was inspecting the Cuyama holdings, but not at all hopeful. . . . He mentioned buying out the Brookshire several years ago and said what a nice fellow he thought his superintendent was or is over at Maricopa.

PHOENIX . . . an Egyptian Myth . . . A miraculous bird, an embodiment of the sun god, fabled to live 500 years, to be consumed by fire, and to rise in youthful freshness from its own ashes. Hence, it is often an emblem of immortality. WELL IF THIS BIRD YOU SEE ON OILFIELDS TRUCKING TRUCKS DOESN'T REMIND YOU OF HARRY PHOENIX HIMSELF LET US KNOW . . . except Harry is no Myth until he looks serious with his hat on at his desk some morning when he has a bit of an argument with a lost truck and lost time.

We LIKE TO write about our friends who give us news or make something happen or do things. Sometimes this is a repeater in news but we told 'em we'd always take due note and mention. Also we take in old and new news on any one else who does it.

AFTER LISTENING to disapproval of loans to Mexico by the SJVOPA we heard based on the same basis opposition to the RFC loans for the industry in USA. Then "how big is Cuyama, if we use oil at the rate of 300 barrels oil yearly . . . ?" ". . . very large refinery investments will have to be made quickly if we use more crude heavies" . . . "It's a long time between Cuyamas". These were other quips from Minckler's address which we enjoyed immensely. MOST INTERESTING TO SOME were the historic data by DR. E. DE GOLYER of USA fame in petroleum research and chemistry. C. O. PREMOS . . . did his usual bangup job as secretary to the 16th annual meeting of which we have been talking about so much. FAMOUS LAST WORDS . . . "market for heavy oil has disappeared" . . . R. L. MINCKLER . . . General Petroleum, President.

Hancock Plans Wyoming Drilling

Hancock Oil of California and Far West Oil Company plan further drilling within a short time on their jointly held 640 acres of ground in the Fiddler Creek field, Wyoming. The acreage, which contains seven producing wells and more than half proved to date, is a short distance from Newcastle, county seat of Weston County. The potential of the wells is from 400 to 2000 barrels a day of 42 gravity sweet oil from a depth of about 5200 feet.

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Also acquired jointly by the two companies is a 13,000 acre block near Glenrock, Converse County, Wyoming. The ground is southwest of the town of Glenrock, location of the new field discovered by the Steelco Drilling Company, which is producing from the Muddy and Dakota sands around 7000 feet. The Glenrock field is one of several new discoveries along the Salt Creek-Big Muddy trend on the south and west sides of the Powder River Basin. This trend is regarded as the most active leasing and wildcatting play current in Wyoming. Of interest is the fact that the most recent completion in the new field is only a mile to the north of the Far West-Hancock combination's ground on which development is expected to begin this spring.

Standard Active On Idaho Land

Standard of California has acquired the major share of Idaho land leased for oil exploration, according to the land commissioner there. Land leased by the state for exploration is 92,109 acres. Many times that amount of Federal land and some private holdings have been leased by private oil companies. All available land in two prospective oil producing areas has been snapped up. The 15,660 acres in Oneida County and 14,563 in Power County which have been leased by the state have virtually all been taken up by Standard. The other major field in which interest has been shown comprises 14,505 acres in Elmore County and 10,720 in Owyhee County. Test wells are reportedly being dug in both fields at the present time.

Iodine from Oilwell Brine

The petroleum industry is now supplying nearly half of the 1,500,000 pounds of iodine used annually in the U. S. The iodine, used chiefly as an antiseptic, is obtained from the brine produced with oil in certain areas. Recently West Coast oil wells have been supplying iodine in such large amounts that imports —and dependent upon foreign production—have been decreased considerably.

Successful Field Tests Prove New H. C. Smith Two-Cone Rock Bit

In introducing its new two-cone rock bit, the H. C. Smith Oil Tool Company says that the bit was offered to the drilling industry only after extensive field tests proved that it gave exceptionally good footage, with fast drilling rates, in a variety of soft to medium hard formations. These tests were made over a period of several years, and the new two-cone bit incorporates all the refinements dictated by those field service trials.

NEW H. C. SMITH two-cone ROCK BIT

One of the principal features of this new two-cone bit is its extremely effective circulation, with twin jets properly positioned to agitate and assure fast removal of the cuttings, and prevent balling-up of the cutter teeth. The construction of this new two-cone bit follows that of all other H. C. Smith rock bits—triple bearing construction of the cones—ball thrust and roller annular bearings for longer wear and to maintain accurate gauge and straight hole. The single-piece alloy steel body is heat-treated for maximum strength. The teeth are hard-surfaced with tungsten carbide for maximum service life.

Willis Rod Rotor

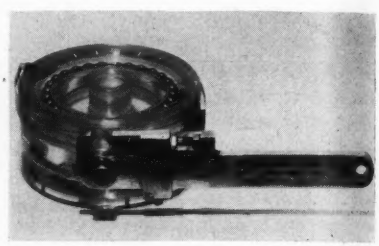
The Willis Oil Tool Company announces their new product, The Willis Rod Rotor, is now in production after two years of testing. The device is ready for distribution, and presents several novel features. The illustration shows a lucite model of the new tool.

The construction is essentially an annular thrust ball bearing, with an ultimate load capacity of 700,000 pounds. The lower half of the bearing rests on the standard carrier bar of the pumping unit. The upper half forms a table on which the polish rod clamp rests. Between these halves is a floating ring containing ball clutches. The exclusive feature is so mounted as to give rotary motion to the upper member. Additional ball clutches in the lower half act as holding clutches and prevent the table from backing up. The entire assembly is packed in grease, and grease fittings are provided to replenish the grease as needed. Only the finest obtainable material is used throughout to give long service.

Another feature is the operating lever which is mounted on a needle bearing, and is provided with an adjustable jaw, by means of which, the rate of rotation can be changed to suit the operator. The operating lever is actuated by an adjustable pull rod from the horsehead.

For safety, there is no positive mechanical connection between the rod string and the rod rotor. The friction between the polish rod clamp and the rotary table is sufficient to transmit the power, but not sufficient to damage the rods in the event of the rods freezing.

For additional safety, a third feature is the ball clutch drive which is so designed that it will give ample power to turn any string of rods. However, should resistance to rotation become excessive, the clutches will slip, thereby preventing excessive torque. When the string again becomes free to turn, rotation will be resumed immediately without any harmful effects on either the rod string or the rod rotor.



The tool was designed and engineered for the specific purpose of reducing maintenance costs in pumping wells by preventing grooving of the polish rod by the stuffing box, distributing wear evenly on the sucker-rods and the rod boxes, distributing wear evenly on the pump barrel and plunger, preventing the rods from backing out of the rod boxes, and operating paraffin scrapers.

It is adaptable to all makes of pumping units.

For any further information write the company at 3440 Pine Avenue, Long Beach 7, Calif.

The United States Chamber of Commerce has called for a detailed program of industrial mobilization throughout the nation. A statement by the Chamber said in World War II the country's geographical position and strong Allies gave it two years to mobilize manpower and develop industrial might for war, but it wouldn't have that respite in future war. Local chambers were urged to cooperate in a recruiting campaign for reserve branches of the armed services.

McCullough Designs Largest Outside Cutter

Rotating around a sharp bend at approximately 1700' in a well in the Long Beach Harbor area, the world's largest outside cutter recently made possible what is considered, a new method of saving earthquake damaged oil wells!

Designed by McCullough Tool Company at the request of Shamrock Drilling Company personnel, the special cutter successfully cut the 10-¾" casing below the offset in the well.

Made by McCullough Tool Company to fit the requirements of this unusual and difficult job, the special cutter was run in under the expert guidance of a McCullough service man, Ray Andrade, the country's oldest active rotary fishing tool man.

While only 15" long, the special cutter measures 24" in diameter! Due to this short body, a completely new method of arranging the cutting mechanism had to be devised.

The recent earthquake at Long Beach, although mild at the surface, caused a shift in the earth's substrata around 1700', severely kinking the pipe and shutting-off production in hundreds of oil wells in that area. One of the problems encountered by Shamrock Drilling Company, drilling contractor in charge of repair operations on this particular job, has been how to keep water from entering the producing zones and possibly flooding the reservoir in this important oil field.

The method commonly followed consisted of cementing the Lower section Below the offset, saving the Upper section, whipstocking and redrilling from Above the offset.

Certain superintendents and engineers, fearing that the cement plug might not adequately prevent water intrusion into the producing zones, decided to try another method.

Instead of saving the Upper section of the well, they decided to save the Lower section. In order to do this, all the pipe down to the offset at 1700' was removed, the hole reamed out to 30" with special tools and the kinked section washed over.

The special McCullough cutter was then attached to a 13' section of special Zublin semi-universal joints, called a "snake." The complete assembly was lowered into the well until it contacted the fish, immediately ABOVE the offset. Then the cutter was rotated over the fish, through the bend in the hole to a point BELOW the offset, where the cut was successfully made.

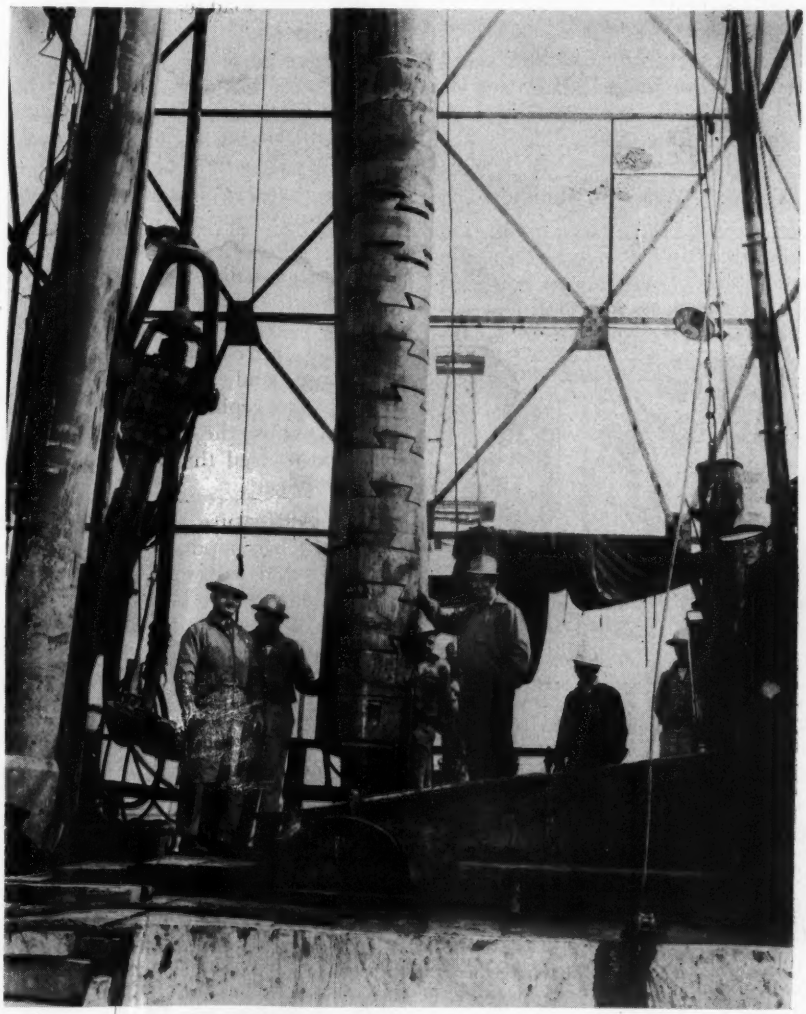
The hole will now be conditioned to a point below the offset where the original casing will be contacted and re-connected, saving the original well. With this new method, the operator can definitely ascertain by testing whether or not any water is entering the well. If this method proves to be economically sound, it is believed that many of these wells will be saved in this manner.

Arroyo Seco Test Begins

About to spud is Humble Oil's C. N. Thorup No. 1 wildcat test on Sec. 21-19s-6e in the Arroyo Seco area of Monterey County.

Rincon Well Sticks Pipe

Chanslor-Canfield Midway Oil Company's Hobson No. B-150 in the Rincon field, Sec. 16-3n-24w, is down 12,348 feet in oil sand, but drill pipe is stuck at 12,280 feet.



Complete assembly, McCullough world's largest outside cutter and Zublin "snake" ready to be lowered into the well. Extreme right, Clyde Cantin, Drilling Superintendent, Shamrock Drilling Company.

LAUGH THIS OFF!!

"Dear Milkman, when you leave the milk, please put coal on the furnace, let the dog out, and put the newspapers inside the screen door. P. S.—Don't leave any milk."

* * *

Bobby: "What is a She-Devil, papa?"

Papa: "If you say another word against your mother I'll whip you."

* * *

Wiseman: "Changing a tire, eh?"

Hotstuff: "No, I just get out every few miles and jack it up to give it a rest."

* * *

Law Student (Arrested for speeding): "Hello, Judge! How are you this morning."

Judge: "Fine, $30.00."

* * *

Voter: "Why, I wouldn't vote for you if you were St. Peter himself."

Candidate: "If I were St. Peter, you couldn't vote for me—you wouldn't be in my district."

* * *

Young Harry: "Father, what's the difference between a gun and a machine gun?"

Dad: "There's a big difference. It's just as if I spoke ,and then your mother spoke."

* * *

Officer (to man pacing sidewalk at 3 a.m.): "What are you doing here?"

Man: "I forgot my key, so I'm waiting for my children to get home and let me in."

* * *

Ailing actor: "I think I'll go to Virginia for my health."

His friend: "Good idea. Virginia has cured a lot of hams."

* * *

He was a small, timid private—the wallflower of the party. But when the orchestra played a familiar and sentimental tune, he took courage and walked across the dance floor. Picking a beautiful but over-sophisticated damsel for his partner, he asked: "Pardon me, miss. May I have this dance?"

A quick glance at his diminutive size and the lone stripe on his sleeve, and she replied: "I'm sorry. But I never dance with a child!"

But quite unsquelched, the private bowed deeply, "Oh, I beg your pardon," he said, "I didn't know your condition."

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